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AND SHIPBUILDING & MARINE ENGINEERING NEWS

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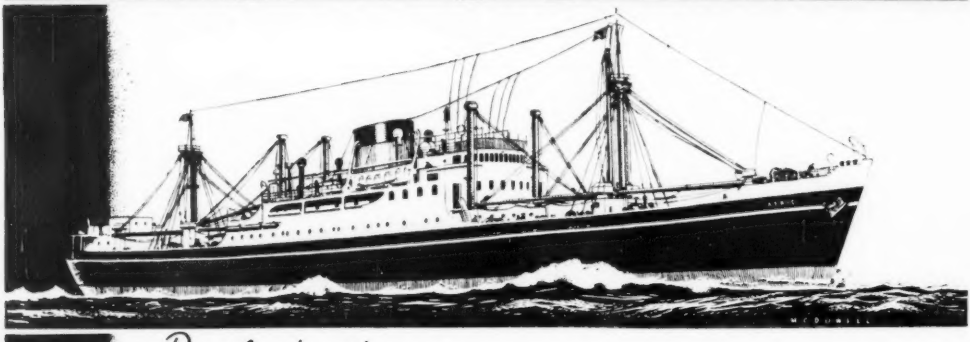

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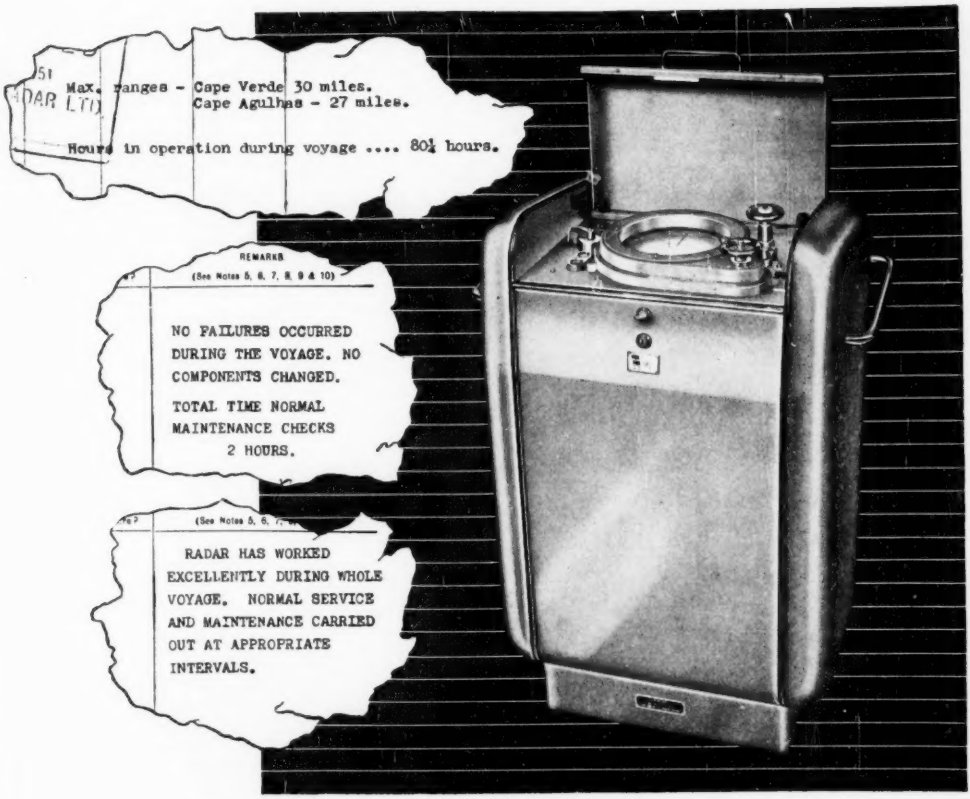
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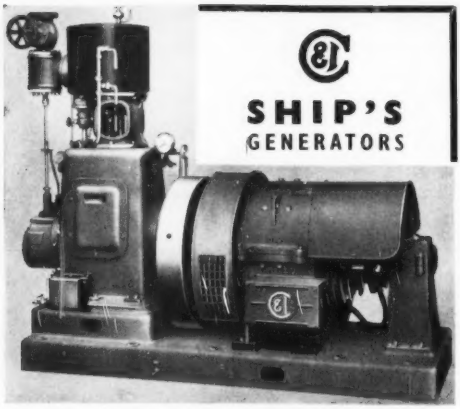

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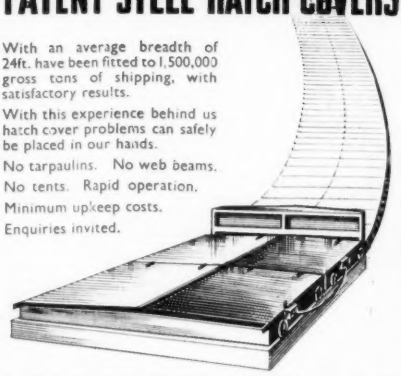

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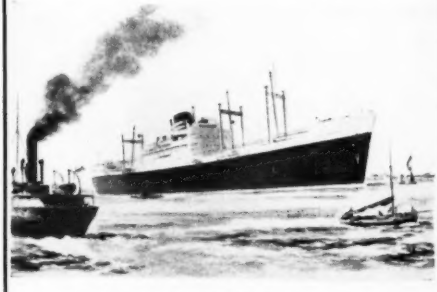

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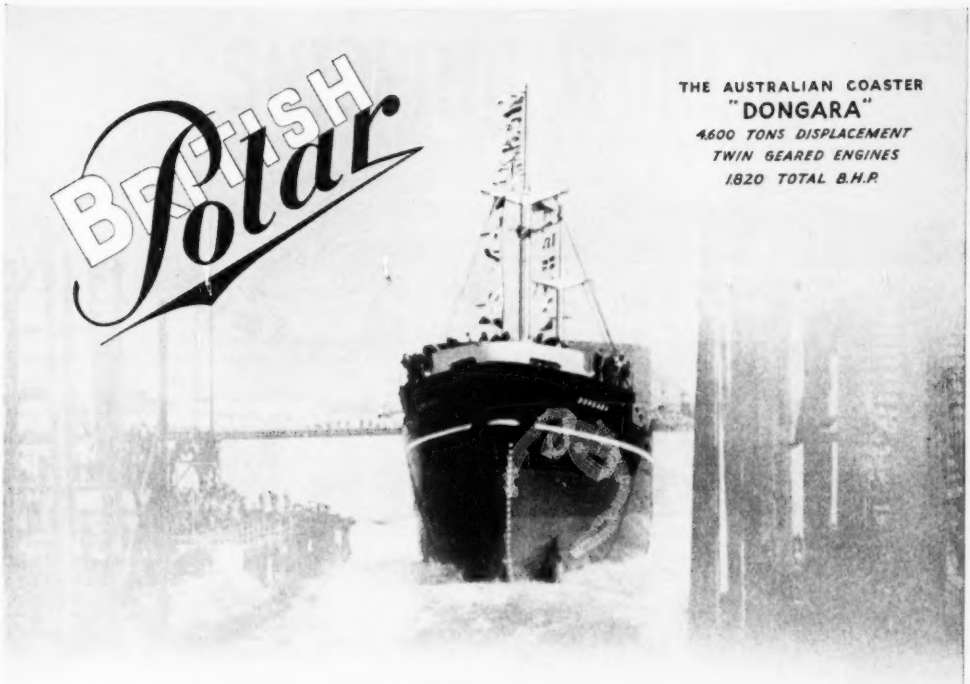

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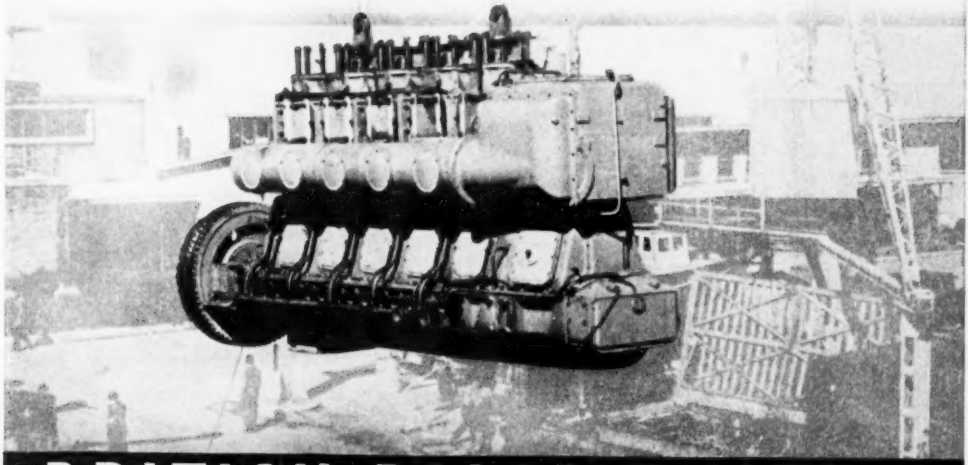

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IN August 1947 the first vessel ever to be propelled at sea, by a gas turbine, successfully completed its initial trials for the Royal Navy. This craft powered by a 2,500 SHP Metrovick Gas Turbine has since undergone full scale endurance trials including an extensive tour of Scandinavian ports in 1949. These trials have amply demonstrated the suitability of the gas turbine for small craft where high speeds may be required for limited periods and at short notice. Metropolitan-Vickers have employed all the wide engineering experience at their disposal both in the designing and building of this type of power unit, fully realising the widening field of this great advance in propulsion since the advent of the internal combustion engine.

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THE SHIPPING WORLD

TAXATION AND REPLACEMENT COSTS

EVIDENCE continues to accumulate, as the accounts of the shipping companies are published, of the serious effects of the modernisation of the British Mercantile Marine which are due to the existing system of assessing profits for taxation purposes. It is true that, in common with other industrial enterprises, shipping companies have been showing increased profits in recent months, but it is an illusion, for so long as the value of money is depreciating a greater number of pounds is required to express the same value as time goes on. As Mr. J. P. Philipps has pointed out, in his statement to shareholders of the United British Steamship Co., Ltd., reproduced on another page, the popular belief that current industrial profits are excessively high is based on a fallacy. In the first place, more than half of those profits go to the Exchequer in taxation, and out of what is left shipping companies must provide funds with which replacement tonnage can be built. In an inflationary period of steeply rising costs, shipowners must be continually increasing the sums set aside out of profits in order to replace their ships when they become inefficient, uncompetitive and obsolescent. Unfortunately, under the existing system, the tax gatherer reaps his share of profits before they can be allocated to replacement reserves. As Mr. A. F. Hull has put it, " surely it is not outrageous to ask that when a shipowner is ready and willing to put his profits back into ships, he should not have half those profits taken away from him?" Profits distributed to shareholders deserve to pay the full rate of tax, but if they are withheld from shareholders and used to maintain the fleet, and thus provide employment, there should be some relief.

Then there is the vexed question of balancing charges. Here again, what might be a reasonable charge in a period of stable costs becomes an unreasonable imposition in a period of increasing inflation. Sir William Souter recently gave an example of the present system. His company recently sold the *Sheaf Holme*, a prewar cargo vessel which realised the sum of £197,972. Out of that total, no less than £49,105 had to be paid to the Exchequer as a " balancing charge," leaving a net amount of £148,867. Yet to build a similar ship to the *Sheaf Holme* today would cost at least £550,000. The company must, therefore, find another £300,000 to replace her, and this money must come from profits; yet the tax collector must have his more than half of the profits, so that more than £600,000 must be earned in addition before the ship can be replaced, apart from any question of paying dividends. The only alternative must be to ask the public for more and more capital, and this situation, as Mr. Philipps has declared, must mean that the old capital has in effect been seized by the tax collector and spent by the Government just as though it were current revenue.

As regards the proposed excess profits tax, Mr. Philipps expressed the fears of many industrialists when he suggested that the new tax must be worse in its effects than dividend limitation unless it is at the same time the Chancellor's intention to change the whole basis on which profits are computed, in such a manner as to allow sufficient funds to be put by annually, before assessing taxable profits, to provide in full for the estimated cost of replacing assets. How else can industry be expected to maintain its capital, and thus its earning capacity, when the cost of replacement of assets is bound to be many times higher than the original or " historic " cost? The difficulty faces all industry, but the shipping industry is perhaps the worst sufferer. Not only are new ships costing 400 or 500 per cent more than the vessels they replace, but these assets have a maximum efficient life of little over 20 years, and then must be replaced at one fell swoop —not piecemeal, year by year. It is not even possible for a shipowner to get a fixed price from a shipbuilder, with the costs of labour, materials and components increasing day by day. Mr. Philipps certainly has serious grounds for his fear that if these conditions persist there must be a gradual and steady decline in the replacement of the British Mercantile Marine. An analysis of the age and structure of the fleets, and of the types of ships on order or under construction at the moment, unfortunately substantiates his fear. In the end, this movement can only mean a heavy loss of invisible exports and, eventually, economic ruin and a permanently low standard of life for the people of this island country.

Current Events

The Verdict on Nationalisation

EVERY responsible person admits that nationalisation has, so far, failed to justify the hopes of its advocates. The nation was to own the basic industries and the workers were to labour for the community and not, as under private enterprise, in pursuit of their own selfish interests. As the Minister of Transport in the last Government has admitted, they have not played the game. Mr. Attlee and his most intimate colleagues decided before the General Election that the National Boards should be given time to settle down and fulfil their ideological dreams before any further measure of nationalisation was implemented. What is the position today? It is no matter of controversy that, in spite of many millions of pounds spent on mechanisation in the mines and improving the lot of the miners, insufficient coal is being brought to the surface and much of the coal which is put on the market, though it is sold at fantastic prices, is of poor quality; exports are at a lower figure than at any time in living

memory. The State-owned transport system, which is also monopolistic, has certainly not realised expectations and costs, reflected in higher freight charges, continue to go up, being an additional burden on other industries which are still in private hands. Again, the Electricity Board has not given the country enough current, though it has repeatedly raised its charges; it has, on the other hand, provided its members with luxurious offices. In these industries, nationalisation has come to stay and one of the urgent tasks of the present Government is to devise ways and means to make them more efficient and more economic. The Boards are on trial. In the meantime, as has been remarked, the leaders of the Opposition, though they intend to fight against the denationalisation of steel, have made no declaration in favour of any further experiments. It is, in fact, conceded that it would be well to watch how the present Boards justify their existence and, while promoting the interests of their employees, prove that they can also serve national interests by doing better than private industry in other spheres. The whole of the maritime industries have done well by the nation in the past, are doing well by it today and, it may be safely assumed, will continue to do so in the future if managements are not crushed by unjust taxation and handicapped by regulations and restrictions issuing from the departmental offices in and about Whitehall.

Effective Criticism

THAT IS, broadly, the position so far as the nationalised industries are concerned, and responsible politicians of all parties are content to "wait and see", in the Asquithian phrase. But the National Committee of the Cooperative Party, which helps to finance the Socialist Party, is looking forward already to the day when the swing of the electoral pendulum will put the Socialists in office once more. It is not lowering its flag, in spite of the deficits of the existing Boards, but is laying its plans for the time when a working majority in the House of Commons will be in a position to carry nationalisation a stage further. The committee is critical, it is true, of the schemes which have already been adopted. It admits that mistakes have been made, but regards the nationalisation of the basic industries as the *sine qua non* for increase in output. The committee urges that the machinery of administration in the public utility group of industries, such as gas and electricity, is too remote from the people it exists to serve. As a remedy, the division of the productive and distributive functions is proposed, the responsibility for production remaining with the existing Boards, and distribution being entrusted to Boards formed of representatives of the local authorities. It is suggested that the larger local authorities should act as main distributive units, with joint Boards representing the smaller local authorities elsewhere.

More Nationalisation ?

BUT the committee nails the pirate's flag of nationalisation to the mast—for nationalisation of businesses created by private individuals under the protection of the law as hitherto administered is a form of piracy—the seizing of goods which are the property of enterprising men of courage and resource, who took risks so that their customers might benefit, as they have, in fact, benefited. Competition has proved to be the key to efficiency. The committee declares that the party it represents will continue to urge that public ownership must ultimately be extended to shipbuilding, the chemical industry, certain branches of engineering, and the manufacture of building materials, including cement. In the meantime, it is urged that public control over these industries is desirable, by the acquisition of shares in existing undertakings or by the appointment of directors representing the public interest. That is not the whole story of this conspiracy against the industries which, under private enterprise, made this country prosperous. The committee, finally, faces the problem of the inefficiency of monopoly administration and urges that the Exchequer must step in and balance the accounts wherever a plausible case can be made out. It is significant that in examining the finances of the various National Boards set up during the past five or six years, the committee gives its support to the claim that they should not be expected to bear the full burden of compensation payments, and that, where an industry for reasons other than commercial—for defence reasons, for example, as in the case of the railways—has to carry an undue burden of capital, the Exchequer should take steps to relieve it of the excess charge. If railways are to be subsidised, what about shipping and shipbuilding and, indeed, all the maritime industries? The railways are now a monopoly; they have not to face competition, domestic or international, as shipping and the other maritime industries must do. There is competition between British shipping companies and increasing competition against overseas rivals. Shipping is essential to the defence of our freedom and livelihood against any enemy. So if the railways, as is now urged, should be subsidised, what attitude would these spendthrifts of the taxpayers' money adopt towards shipping, the lifeline of this community of islanders, and its associated industries? Would the National Boards, having bought out the shareholders, ask to be relieved of all or part of the interest charges which the present directors bear without complaining?

Debt to British Seamen

THE sheep farmers of New Zealand after the First World War worked out a novel and practical way of acknowledging their debt to British seamen. They started a fund in 1920 out of which British boys, the sons of British seamen or airmen killed or disabled during the war, could be sent to New Zealand to be trained in and established for a career in sheep farming. That fund is still available, and by last year the trustees had distributed £232,000 and still held £130,000 for future operations; so that every year 15 British boys between the ages of 15 and 17, whose fathers were seamen or airmen killed or incapacitated during the Second World War, can avail themselves of it. Each boy receives a passage to New Zealand, kit valued at about £100, a year's training at Flock House, the New Zealand Department of Agriculture's farm training school, an apprenticeship until the age of 21, and his savings subsidised to the extent of 15s. in the pound to the limit of £250. The task of recruiting boys for the scheme falls on Mr. E. L. Smith, the secretary of the Royal Alfred Merchant Seamen's Society, and it is, perhaps, surprising that he does not find the task easy. Although the full quota was obtained last year, only 29 boys have gone to New Zealand under the scheme in three years, and many more applications must be received if 15 more boys are to be ready to sail next April or May. There must be many sons of British seamen who lost their lives during the Second World War who will now be about the right age and glad to avail themselves of this fine opportunity, if only their guardians or surviving parents got to hear of it. Many seamen serving in British ships today must have had comrades whose sons would qualify, and the welfare departments of the shipping companies might also be able to assist Mr. Smith in his task.

American Tramp Shipping

DESPITE the prevailing high level of freight rates, American tramp shipowners are not unnaturally concerned about their competitive ability when conditions return to normal. In looking to the future at a time of present prosperity, they are acting wisely, as the British tramp owners have done, in formulating their cooperative scheme. A tramp shipping fleet under the American flag is, of course, a new phenomenon, which appeared in the abnormal aftermath of the Second World War. Whether it has a permanent place in the

economics of world shipping still has to be proved; but the American owners themselves are determined that everything shall be done to implant in the minds of Congress the thought that the existence of American tramp shipping is a vital national interest. A recent development has been the formation of a Committee for the Promotion of Tramp Shipping, which has now started publishing a quarterly pamphlet on the subject. It points out that tramp shipping is one of the few American industries that compete directly with foreign competitors without the protection of tariffs and unaided by subsidies, and it goes on to assert that the American tramp fleet cannot survive without assistance unless there is a halt in the rapidly rising cost of ship operation. The major differential between American and other flags, as far as operating costs are concerned, is that of wages, and the basic wages in American flag vessels have risen, it is stated, 80 per cent since the end of the war, and over 260 per cent since before the war. This is also the subject of the November *Shipping Survey* issued by the Association of American Shipowners, which contends that unsubsidised American shipping is being threatened by spiraling wage costs. Comparative figures show that in 1947, when the British seamen's basic wage, excluding efficient service pay, was raised to £20 a month, the American seaman was receiving $182.85. The American basic rate is now $262.84, while the British rate is now to be increased to £24, or $67.20 at the existing rate of exchange. What the American tramp owner wants, it must therefore be presumed, is a combination of protection (some nations would call it discrimination) and Government subsidies—a poor prospect for the nations who depend on shipping earnings.

Use of the Reserve Fleet

THE COMMITTEE for the Promotion of Tramp Shipping also has some interesting things to say in a short article under the title of "Free Competition in Tramp Shipping". It notes that when the excess of tonnage over demand is great, freight rates fall to unremunerative levels and the only remedy available to shipowners is to lay up their fleets. Since frequently losses are minimised by keeping a vessel in operation, a strong dampening effect is exerted on rates in a dull market. On the other hand, at the peak of the shipping cycle, when demand outruns the supply of tonnage and the opportunity occurs of recouping previous losses and building up replacement reserves, in recent years, the Committee complains, the great reserve fleet of the United States has been used to control rates. The Committee considers that it is essential that surplus tonnage should be broken out in times of unusual emergency to meet national and international needs, "but too frequently in recent years the determining factor in the amount of tonnage released has not been the physical need alone. Reserve tonnage has been used as a lever to depress tramp rates at the peak of the cycle, although no efforts have been made to bolster the market during the troughs." The Committee claims, therefore, that adequate consideration should be given to American long-term maritime policy in determining the amount of Government-owned tonnage released from the laid-up reserve fleet in times of emergency. It is difficult, for British eyes at any rate, to visualise how this suggestion accords with the concept of free competition in tramp shipping.

The Attitude of Port Labour

WHAT he called "the canker of unofficial strikes" was referred to by Mr. A. F. Hull at the annual dinner of the Glasgow Shipowners' & Shipbrokers' Benevolent Association. He was sure that the majority of dock workers honestly preferred to do a day's work and earn as much as they could, but men who had not the slightest desire to go out on strike were being intimidated, by "a subversive element inspired by a foreign ideology", to leave their work on the flimsiest of excuses, often in defiance of their own unions. This spirit of indiscipline, and the refusal to permit the use of time-saving appliances are, of course, seriously interfering with the turnround of ships in British ports and, if continued, will make the continuance of our vital export trade a virtual impossibility. There have been some outstanding examples of this recently in the Port of London. As Mr. J. W. Coats told the short-sea liner section of the Chamber of Shipping, the "go slow" at Tilbury and the "work to rule" of the London lightermen has so hampered work and congested wharves that it will be months before the mess is cleared up. The refusal of the corn porters to work the new grain elevator is another example of the misguided attitude of port labour, reminiscent of the famous Luddites. The fear that by speeding up work they will be doing someone out of a job has been proved time and again by American workmen to be totally unfounded, and, in fact, the opposite is generally the case. As Mr. Hull put it, with striking clarity, "It would be just as sensible to prohibit the use of penicillin on the ground that the undertakers were losing business". Mr. J. P. Philipps has also spoken on the same lines, pointing out that far from causing redundancy, the use of new machinery tends to improve the earnings of workers by creating more work, and by reason of increased output at a lesser cost full wages can be paid for a shorter working week. To put the cart before the horse, as port labour is doing by impeding output, is nothing but economic suicide.

Radio-Telephony for Tankers

THE INSTALLATION of V.H.F. radio-telephony in 37 Esso tankers, which is at present being carried out by Rees Mace Marine, Ltd., with Pye equipment, is claimed to be the largest project of this type yet to be carried out in a single fleet. The equipment is for use when approaching Fawley, where the Esso Petroleum Company's new refinery, the largest in Europe, was opened in September. Shipping in Southampton Water has to maintain wireless silence, on account of the large number of ships in the area and the overloading of the M.F. marine wave band that would otherwise result. V.H.F. radio-telephony, however, can be used. A shore station has been set up at Fawley, with the aerial mounted on top of a house. The radius within which signals can be received is about 30 miles, covering the Solent, Spithead and Southampton Water. It is thus possible for masters of tankers to be informed of conditions at the jetties and to receive orders as to the time and position for berthing, while they can also inform the office before their arrival alongside of any requirements. This may on occasions allow a quicker turnround. A feature of V.H.F. radio-telephony is the low power required. The transmitters in these installations, which have the same equipment for the shore set and for those in the ships, radiate only 15 watts. Another installation being carried out by Rees Mace in this area is that of eight tugs belonging to the Southampton, Isle of Wight & South of England Royal Mail Steam Packet Co., Ltd., which operate in Southampton waters.

SAYINGS OF THE WEEK

"WE WORK OR WE STARVE"

"We in this country are now old enough to be told the facts of life. The issue is quite simple: we work or we starve. The ban on overtime and go-slow, especially in the docks, are an insidious and deadly attack launched not against the employers, but against the nation at large."—*Mr. A. F. Hull*, chairman of Ellerman Lines, Ltd.

UNREASONABLE BALANCING CHARGES

"It might have been argued that this (balancing) charge, based as it is on the original or "historic" cost of those old ships, in principle would have been reasonable had replacement costs remained static, but it definitely cannot be reasonable when the cost of replacing vessels sold has risen by as much as 400 or 500 per cent.—*Hon. J. P. Philipps*, chairman of the United British Steamship Co., Ltd.

ON THE "BALTIC"

SHORTAGE OF TONNAGE AND LACK OF COAL

By BALTRADER

THERE IS a widespread demand for cargoes of coal from Calcutta; all of it will not be satisfied, because stems are not sufficient to cover the whole of the inquiries, and even if they were there probably are not enough ships available for the purpose. Would-be charterers have to compete with orders freely circulating for the carriage of manganese ore and salt from other Indian ports. Cargoes of Calcutta coal are quoted for discharge in Japan, Hong Kong, Australia, the United Kingdom and Denmark. The two last-named destinations will occupy tonnage for a passage of a month or more, as compared with a maximum trip of three days with British coal for Denmark. Earlier in the year, voyages of almost equal length were involved in supplying Denmark and other European countries with South African coal. Until the breakdown of coal exports last summer, or rather in the winter months of South Africa, that country was providing continuous employment for shipping in carrying coal to Karachi and Chittagong to take the place of Indian coal. Last week, there were fixtures of coal carriers from Hampton Roads for the journey of 10,400 miles to Chittagong, which is 330 miles from Calcutta. Simultaneously Indian coal, so badly needed by Pakistan, will journey from Calcutta to the United Kingdom. No one thought of these absurd arrangements until the British acknowledged the right of the people of India to go their own sweet way.

North Pacific Grain and Lumber Market

The North Pacific market for grain and lumber shows every sign of steadiness because inquiry continues and tonnage has to be drawn from afar; few tramp ships arrive with cargo anywhere within thousands of miles of the North Pacific Coast. There have often been times when owners were prepared to send their ships to that area in ballast from this side; today there is too much inducement offering on both sides of the Atlantic to allow the North Pacific to compete for ships discharged in Europe. This has applied with greater force since cargoes of motor cars ceased months ago to be available for export from Great Britain to British Columbia. Looking in the opposite direction, there is not much cargo offering for shipment in the Far East, but neither is there much tonnage coming available there. Earlier in the year there was heavy chartering of ships with salt from the Mediterranean and the Red Sea to Japan, but in recent months stocks of salt have mounted in Japan sufficiently to enable that country to restrict further imports for a while. The comparative shortage of tonnage in Japan has the effect of stiffening the North Pacific market, which relies to a great extent on ships arriving in ballast from the Far East. Lately there has been a marked decline in shipments of grain and soya beans from Manchuria and North China. A few vessels have been taken for grain from that area to India at firm rates on account of the shortage of tonnage already mentioned and of the competitive strength of the North Pacific. The activity of early months in chartering from Dairen or North China to Europe has been entirely lacking; if this trade revives, as seems likely, the North Pacific will be further deprived of available tonnage.

Grain from Australia

It is to Australia that the North Pacific charterers look for tonnage with most expectation. Chartering homewards from there is very slow to develop and the charterers are making the most of their opportunity. The rate of 120s. for bulk grain ex silo from West Australia, South Australia or Victoria was deemed to be too low by most owners, but 2s. 6d. less was accepted last week. The late opening of chartering from Australia is a repetition of the circumstances of a year ago. One may expect a better demand early next year, and owners may then benefit by a more healthy competition for tonnage as between Australia and the North Pacific, and perhaps North China as well.

The prolonged shortage of tonnage in the world since the war is to a great extent due to the lack of coal in Europe and rice in Asia, giving rise to great movements of cargo from North America—coal to Western European countries and grain to India. The freight position has, of course, been strongly affected by rearmament and stockpiling, and it has been aggravated by political interference with normal trade, causing buyers to look far afield for commodities which used to be obtainable at their door. India and Pakistan have been mentioned already; there are also China and Japan, which used to trade with each other. Instead, Japan has to look elsewhere for the salt and coal which she used to ship from China. Japan now also depends on the Eastern United States for soya beans and grain, whereas Manchuria is her natural larder.

The Freight Market

Eastern North America has again been the most active market, and many fixtures for coal and grain have been arranged. Two "Parodi" ships are fixed for coal from Hampton Roads to Antwerp or Rotterdam at $10.50, option Germany $10.95, for loading January/February and February respectively. Voyages for similar employment from January to June are fixed at $10.50. Tonnage has been taken for Hampton Roads to West Italy at $11.70, January/February. The *Argodon*, 42,000 quarters, is fixed for heavy grain from U.S. north of Cape Hatteras to U.K. or Antwerp-Hamburg range at 22s. 6d. per quarter, January 1/21. The *Argolib* is chartered, Gulf to U.K. Continent at 26s. 3d. per quarter, heavy grain, January, and the *Durham Trader* similarly for January 18/February 7. The *Gladiator* is fixed from Eastern U.S. to West Coast India at $23, heavy grain, January. The Japanese *Shoyo Maru* has accepted 187s. 6d. Gulf to West Coast India, heavy grain, February/March, a cut of 7s. 6d. The *Ogna* is fixed for lumber, North Pacific to U.K., at £32 per standard, March/April, but £34 has been paid for a January vessel with February 5 cancelling. The *Asakirisan Maru* takes iron products, Rotterdam to Galveston, at $6.50 f.i.o., followed by Gulf/U.K. sulphur at 125s. A vessel of medium size is fixed for maize from Yugoslavia to U.K. at 95s., December/January. Black Sea to U.K., heavy grain, has been accepted at 100s., February; Calcutta to Japan coal, has paid 117s. 6d., January, and Marmagon to Japan, manganese ore, 108s., January/February. There is fairly active inquiry on time charter basis, including long periods. The *Vesterøy* (m.v.), 9,350 tons deadweight, 13½ knots on 17 tons, is fixed for 12 months at 51s. 6d., delivery Australia, February/March, redelivery Australia, for the phosphate trade.

Air Charter Business

Although Christmas traffic is not an important feature of air charter business this year, most aircraft are fully engaged for some time to come. Further supplies of chartered planes are required for Government employment for which tenders have been invited. Brokers report a great increase in inquiry for transport of cattle by air, particularly from Ireland to the Continent.

THE FIRST cargo of timber to be received at Newport Docks since before the war was unloaded recently from the steamer *Sugar Refiner*.

TAXATION POLICY AND SHIPPING

A STUDY OF THE EFFECTS OF TAXATION ON MARITIME NATIONS

By HECTOR GRIPAIOS, B.A., M.Sc. (Econ.)

In the November issue of WORLD SHIPBUILDING, Mr. Gripaios contributed an article on "Taxation Policy and Shipbuilding." Since shipowners are the customers of shipbuilders he dealt in some detail with the effects of taxation on shipowners. That part of the article which is concerned with the effects of taxation on the ability of shipowners to replace their fleets is reprinted in the accompanying abstract.

TAXATION may be said to influence shipowners principally in the following ways: (a) wear and tear allowances; (b) initial allowances; (c) balancing charges; (d) taxes specially applicable to shipping; (e) the many factors entering into the calculation of income liable to taxation.

Wear and Tear Allowances

(a) Wear and tear allowances for new vessels vary within limits between various countries. For example, Norway and Denmark permit 8 per cent for tankers, by comparison with 6¼ per cent in the United Kingdom, and 5 per cent for German tankers employed on dirty trading. The country which appears to be most favourably placed in this respect is Sweden, where it is customary for "free" depreciation to be allowed, subject in the case of vessels built in 1951 only to a 10 per cent investment tax on amounts written off in excess of 10 per cent of the building cost. Norwegian owners, in addition to being allowed comparatively favourable wear and tear rates, are also allowed in certain circumstances to place up to 20 per cent of their annual taxable income into a tonnage replacement fund. While allocations of this kind are exempt from taxation, the Government reserves the right of deciding the appropriate time for the release of these funds for their proposed purpose.

This is a policy which may well be copied by other countries as a means of combating cyclical fluctuations in capital industries such as shipbuilding. The owner may not like having his replacement policy controlled in this way, but the tax exemption is probably an adequate inducement. The shipbuilding industry will undoubtedly benefit inasmuch as the Government will certainly opt for these replacement funds being utilised when demand for new tonnage and employment in the shipbuilding industry is slack.

On the other hand, Dutch shipowners have since 1946 had the option of adopting a "declining balance" method of calculating wear and tear for tax purposes. Twenty per cent can be written off the value at which assets appear in the books in each successive year, so that almost 50 per cent of the original cost can be written off within four years' trading.

Rising Costs to Continue

(b) Since the middle 1930s shipbuilding costs have risen almost without interruption, and there is now a generally accepted presumption that this trend will continue in the near future. In these circumstances it follows that the more rapidly owners are able to replace their fleets the more advantageous will be their position, especially if they have expansion in mind. In this context, initial allowances are of great importance, although these should be considered in conjunction with the wear and tear, and "free" depreciation allowances discussed above.

In the United Kingdom 20 per cent initial allowances were introduced in 1945, and these were increased to 40 per cent in 1949, only to be suspended by the Finance Act, 1951. Holland permitted 33 per cent initial allowances up until 1950, when the existing arrangement by which the initial allowance could be claimed in one year was modified to 10 per cent, which is the present maximum permitted during any one year. Norway operated until October 1950, when they introduced the tonnage replacement funds described above, a scheme often referred to as the "overprice" system, which was tantamount to an initial allowance. It was possible to write off within five years, in the case of vessels contracted for during 1950, the difference between the first cost and what was considered to be the "normal" value of the vessel, which was taken to be 80 per cent above the corresponding 1939 price. If it is said that 1950 prices were 200 per cent above 1939 prices, then it is possible to conclude that this Norwegian arrangement amounted to an accelerated wear and tear allowance on about 40 per cent of the first cost. Danish owners are also allowed to write off within three years the difference between prewar and postwar building costs.

The only difference here with an initial allowance is that the amount involved has to be written off over several years, and is restricted in any one year to 50 per cent of the taxable income. Initial allowances permit not only accelerated depreciation, but also the possibility of obtaining tax relief on any instalment payments which may have been made to the builders before the vessel comes into service. Naturally the prospect of rapidly paying off capital first cost improves the chances of raising the necessary capital, and reduces the liability to interest charges.

(c) Great as has been the controversy about the balancing charges imposed in the United Kingdom, where capital appreciation is not taxable, it should be realised that in other countries where this is the case, such as Holland, even greater burdens are imposed upon shipowners. There must have been many occasions during the last year when being subject to balancing charges cost owners more than 10 per cent of the cost of the new or other vessel which they were acquiring.

Effect of Balancing Charges

The influence of these charges upon the shipbuilders of nations imposing them has not been felt in a period of shipyard activity, but generally they must weaken the position of owners who are contemplating the disposal of a vessel at a price above the written down value for taxation purposes with a view to part financing a new building. Traditional British tramp owning policy was to sell, and replace with new tonnage, vessels which had been in service for about 10 years. This kept down the average age of the British tramp fleet, thereby maintaining its efficiency, at the same time providing employment in the British shipyards. Balancing charges impede this policy, and may in the long run have an adverse effect on both the shipping and the shipbuilding industries of those countries which impose them.

(d) Some countries levy special taxes on shipping such as the 35 ore (about 4d.) per ton per month and the 4 per cent freight equalisation tax which are levied by the Norwegian Government. Denmark has recently levied a once and for all levy of Kr.15 million on the shipping industry. At the other extreme are Panama, Honduras, and Liberia, where taxes and other dues are significantly small by comparison with European countries, although the direct consequences for shipbuilders here may not be very great inasmuch as operators under these flags will probably build in the most competitive yards. Indirectly, however, the result may be that tonnage will migrate from European

countries, possibly undermining an established relationship between owners and builders.

(c) In addition to the above there are many other considerations which influence the tax liability of firms, such as the number of years' losses which may be carried forward for taxation purposes, whether wear and tear is allowed on original or some other valuation, and whether or not an "averaging" of profits is permitted. Many different principles could be observed here; for example, Belgium only permits the carriage forward of losses for two years, as compared with the normal practice of six years in the United Kingdom. On the other hand, in 1947 Belgium permitted the revaluation of assets at 2½ times their 1939 values for taxation purposes.

Belgium acted in a similar way in 1928 as a result of the 1926 devaluation, and this is an example which will probably have to be followed by other countries as replacement costs continue to rise, at the same time making wear and tear allowances on the original cost of equipment progressively inadequate. Holland adopted a similar arrangement in 1950 when a doubling of the book value of vessels built before 1942 was permitted, without being subject to taxation. This resulted in a doubling of the depreciation allowances of these vessels as from January 1950, and provided substantial assistance to owners faced with the problem of inflated replacement costs.

Summary

It is apparent that there is no easy way of assessing the relative influence of different tax systems. Perhaps the best, and by no means perfect, method will be to examine how shipowners operating under different flags have progressed in the postwar period. Two things are of importance here, whether fleets have been expanding or not, and whether or not they have been able to maintain an adequate number of modern vessels.

TABLE I

	Percentage Increase of 1950 over 1939 Fleet	Percentage of Fleet under 5 years old 1939	1950
Sweden	29.9	15.0	23.8
Belgium	17.9	24.9	31.3
Norway	12.9	24.6	30.2
France	9.3	13.2	26.4
Denmark	8.0	16.7	25.9
Netherlands	4.7	22.5	18.9
United Kingdom	1.8	21.1	21.0

Source: Lloyd's Register of Shipping

Taxation will not be the only factor exerting an influence on the figures shown in Table I. Losses sustained during the war, the effect of subsidies and other Government assistance, together with the competitive strength of fleets will also be important considerations. However, taxation is one of the most important single influences, and it is interesting to compare generally different tax systems with the progress of various fleets in the postwar period. The two principal features of a taxation system will be the severity of the rates of taxation, and the adequacy of measures for relief from taxation.

The United Kingdom fleet shows the smallest increase between 1939 and 1950 and it is probably not a coincidence that British taxation is higher than that of her maritime competitors, while her measures for taxation relief are not as favourable as those to be found in most other countries. Sweden, on the other hand, with relatively low taxation and "free" depreciation, displays the largest rate of increase. Norway has relatively high taxation, and at the same time comparatively favourable measures for taxation relief.

Holland's taxation compares favourably with some countries, as does her "declining balance" system of depreciation, and her revaluation of vessels built before 1942. But her taxation of capital appreciation and her general postwar economic problems, particularly associated with reconstruction, have been adverse factors. It is unfortunate that it is not easy to isolate the consequences of varying rates of taxation on competitive power.

Turnround and Taxation

Shipping Problems of the Moment

THE many difficulties facing the shipping industry were referred to by Mr. Alan C. Bulmer, chairman of the Tees Shipping Association, and Sir Guy Rooner, when they spoke at the annual dinner of the Association. Mr. Bulmer characterised heavy taxation, unsheltered competition in a world market, rising costs and serious delays in port as some of the problems. He said that the drain imposed by taxation was imperilling the future of the industry and its capability to ensure the continuing existence of a competitively efficient Merchant Navy. There was no protected home market for shipping, which must operate and hold its own in international markets where the test of success was an ability to render efficient service at a cost comparing favourably with that of foreign competitors. Costs continued to rise and the position had now been reached, irrespective of the presence or absence of distributed profits, where the wastage of fixed assets could not be replaced, and it might be that there would be a gradual decline in fleet size and efficiency.

Turning to port delays, Mr. Bulmer described these as "a malignant disease which is eating into the efficiency of the industry throughout the world." When it was realised that the average cargo ship of 10,000 tons accounted for some £600 a day, the losses on this score assumed an appalling and fantastic figure. Ships were spending too much time in ports in this country and this contributed in no small measure to the increase in the cost of living. "Cargo handling generally in British ports is definitely inefficient" added Mr. Bulmer. "We are not getting anything like a reasonable quantity of work done for the outlay and it would seem that the solution lies in the efficiency, by reform, of cargo handling on a modernised mechanical basis, together with an improvement in human relations." He averred that the efficiency of Continental ports was attracting, and indeed sapping, much of our trade.

Sir Guy Ropner also referred to the crippling effects of high taxation. While it was recognised that the Government had to raise money for rearmament, it should also be realised, he said, that the results of taxation at its present level were making it extremely difficult for British shipowners to replace redundant tonnage and still more impossible for them to increase the size of their fleets. British owners were handicapped because out of each £100,000 profit a shipping company made about £60,000 was paid out in taxation, in addition to which provision had to be made for service, repairs and dividends, and the company might be left with about £10,000 net out of each £100,000 earned. This meant that the lifeblood was being sucked out of the industry, particularly when it was realised that it cost about £500,000 to provide an ordinary tramp steamer today.

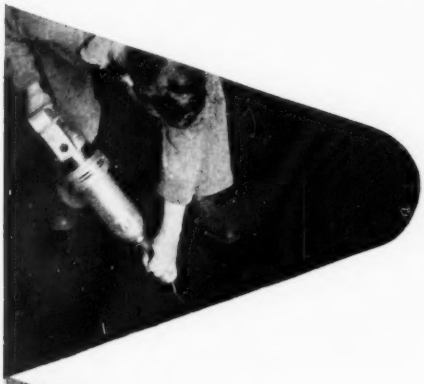
Turkish Port Developments

Last year Turkey was granted two loans from the International Bank for Reconstruction and Development, totalling $16,400,000, for the development of ports and grain storage facilities. The *Monthly Trade Journal* of the British Chamber of Commerce in Turkey reports that the Ministry of Public Works has appointed the Danish firm Kampsax as consultant for the port development projects, estimated to cost $12,500,000 (or T£73,000,000). They include enlargement of the ports at Salipazari and Haydarpasa (Istanbul), Alsancak (Izmir), Samsun and Iskenderun; repairs, improvements and additions at these and other ports, including Mersin; and the provision of a large pool of various equipment and workshop facilities. Dockside grain silos are to be provided at Istanbul (capacity 34,000 tons), Izmir and Iskenderun (each of 20,000 tons), complete with auxiliary equipment. Tenders have been called for the supply of barges, lighters, tugs, cranes, etc.

Lighters for Colombo

It will be almost a year before the port of Colombo gets the full complement of 28 eight-tons lighters which it has ordered from two firms abroad. One firm in Holland, de Hoop, will supply half the number of lighters at £2,600 each. They have promised to deliver the first batch in two months and the rest in March. But the second firm, Millen Bros., of England, will take at least another ten months to deliver the rest. Their price, however, is £2,150 each.

The current issue of the Port of Colombo *Quarterly Review* contains an article on the history and development of the Bibby Line.



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NORWEGIAN SHIPPING AND SHIPBUILDING

RECOMMENDATIONS ON THE RUNNING OF SMALL SHIPS

By THE SHIPPING WORLD'S Own Correspondent

IN October, 1949, the Norwegian Government appointed a committee which, among other things, was to investigate the economic possibilities of ships under 1,200 tons gross and submit proposals on what could be done to improve the earning capabilities of this group of vessels. The committee was a representative one, with three Government officials, two shipowners, a representative of the Norwegian Seamen's Union and one for the Norwegian Engineers' Union, a representative of Norwegian shipbuilders and one from the Bank of Norway, with Professor E. W. Paulson, of the Norwegian Commercial College of Bergen, as chairman. Recently this committee has produced its report on the running of small ships and its recommendations are bound to exert great influence on Norwegian shipping policies in times to come, especially as the report and the recommendations are all unanimous.

In recognition of the fact that Norwegian vessels in the 500 to 1,200 tons gross group have practically the same number of crew as a vessel of some 2,000 tons gross, the committee recommended that an advisory body should be appointed to deal with the manning of small ships. It is agreed that many vessels are trading in waters where it is necessary, for the safety of the ship as well as the crew, to have a rather large crew, and in other cases the vessel's machinery and loading and discharging gear are so well laid out and so mechanised that a smaller crew can easily run the vessel. It should be the work of the advisory body to investigate each case and advise how many men the vessel should have.

Change in Taxation Recommended

As far as taxation is concerned, the committee recommended that the tonnage duty should not be levied on ships under 2,500 tons gross; and when a ship below this tonnage is sold to Norwegian buyers the seller should have the right to claim exemption from income tax on the proceeds of sale, just as if the vessel had been sold to foreign buyers. The above should, however, hold good only if the vessel was less than 15 years old. The committee also recommended a change in the capital taxation of small ships. Hitherto the value of the vessel has been decided according to the market value at the turn of the year. The committee recommended a fixed nominal value that should not fluctuate according to market values. Further, small ships should be written off more quickly. A year ago the Government changed the law and shipowners can now only write off a certain percentage, while before they could also use some 50 per cent of their yearly net income to write off what was called "overprice." The committee suggested that for small ships this old rule should again be made valid.

As for the building of handy-sized vessels, the committee recommended that there should be close cooperation between Norwegian shipbuilders and owners, as well as shipbrokers, in order to find out the types and sizes of vessel that could best be built and put to the best use. In addition, Norway's ship model tank at Trondheim ought to be able to give good account of itself in this connection.

It is, however, when it comes to the new building of small ships outside Norway that the committee's recommendations are of the greatest interest, for it simply proposes the sweeping away of all restrictions. Norwegian owners, it is recommended, should be free to order vessels under a certain tonnage wherever and whenever they liked, without having to arrange for 50 per cent loans abroad before they can obtain a Norwegian currency licence. The limit the committee set at 2,500 tons gross and, in the case of purchase of secondhand vessels from abroad, 15 years of age. Other recommendations, as for instance that the Norwegian authorities should work for a common international code of working hours and manning of vessels, and a change in Norwegian restrictions as regards the sale of old small vessels for scrapping, were also put forward. Most likely the whole report will be dealt with by the Storting some time next year.

Record Month for Launching

November was a record month for launchings from Norwegian yards. Fredriksstad mek. Verksted launched the motor tanker *Viva*, of 13,500 tons d.w., a sister ship of the *Tank Princess*, which was delivered to Sigurd Herlofson & Company in June. The *Viva* is being built for C. H. Sörensen & Sönner, Arendal. Bergens Mek. Verksteder launched the motor vessel *Thorsgaard*, of 7,750 tons d.w., the largest ship yet built by the yard. She will be equipped with a diesel engine of 5,600 h.p. that will give her a speed of 15.5 knots. Delivery to A/S Thor Dahl, Sandefjord, is expected to take place in April next. Another yard at Fredrikstad, Glommens mek. Verksted, launched the *Vamos*, a shelterdecker of 1,865 tons d.w. Her main engine will be a Nohab diesel of 1,200 h.p., and her service speed is reckoned to be 12 knots. The vessel will be delivered to her owner, Sverre Ditlev Simonsen, Oslo, in February and she has already been fixed for a six months' time charter at a rate of 72s. 6d. Towards the end of November Rosenberg mek. Verksted launched the *Kongstank*, the second of the 16,200 tons d.w. series of which the *Berge Bergesen*, launched last January and delivered in June, was the first. The *Kongstank* is being built to the order of Brödrene Olsen A/S, Stavanger, and will be equipped with a Doxford diesel of 5,500 h.p. In a speech at the launching Mr. Sig. Bergesen d.y., chairman of the board of directors, said that the *Kongstank*, which is all welded, had taken one-third of the working hours that would have been required to bring a 9,000-tonner to the same stage of completion a few years ago.

New Orders

In step with the many launchings several new contracts were placed with Norwegian yards during November. Kristiansands Mek. Verksted is to build a tanker of 6,000 tons d.w. for A/S Agnes (Einar Saanum) Mandal, with delivery in 1956; and for A/S Odderö (A. I. Langfeldt & Co.), Kristiansand, a motorship of 7,000 tons is to be built, for delivery in 1957. From Trondhjems Mek. Verksted other Kristiansand owners, Ingvald Björneboes Rederi, have ordered a specially built cargo steamer of 3,550 tons d.w. to be delivered in 1954. At Drammens Slip og Verksted, Richard Amlie & Co. Haugesund, have ordered a tanker of 2,550 tons d.w. to be delivered in the spring of 1954. She will be the first tanker built by the yard. A/S Thor Dahl, Sandefjord, have ordered a motor whalecatcher from Moss Værft & Dokk. This vessel will be equipped with a Nordberg diesel and will be the first Norwegian-built motor whalecatcher. Delivery is to take place in the autumn of 1952. At Seutelvens mek. Verksted, Fredrikstad, two orders for small shelterdeckers have been placed, one for a vessel of 700 tons d.w. by Jakob Misje, Bergen, and the other for a vessel of 750 tons by an owner in Haugesund. Fredriksstad mek. Verksted has bought 10,000 tons of steel in Japan. Most of it is plate but some sections are included. With the help of this steel and what the yard already has in stock it is hoped that another five ships can be completed.

UNITED BRITISH STEAMSHIP CO., LTD.

EFFECT OF HIGH TAXATION AND REPLACEMENT COSTS

The Hon. J. P. Philipps on the Labour Position

THE 22nd annual general meeting of United British Steamship Co., Ltd., was held on December 12 at Winchester House, Old Broad Street, London, E.C. The Hon. J. P. Philipps, the chairman, who presided, said:

The directors' report and the accounts for the year ended June 30, 1951, have been in your hands for three weeks, and I presume you will allow me to take them as read. (Agreed.) I hope the accounts give you a clear picture of the state of the company at that date, but I shall be glad to answer any questions that you may wish to ask in a few minutes.

The commencement of the year under review happened to synchronise with the outbreak of hostilities in Korea, and the increased demand for shipping space from that time onwards gradually brought about an improvement in freight rates. This improvement was not immediately reflected in our earnings because vessels had to complete their existing contracts before they could benefit from the higher rates. It must be borne in mind that during the year the company's fleet was reduced by the sale of two vessels, so that the profit shown was earned by a smaller fleet.

Additions to the Fleet

As you will have noticed in the report, your directors have placed contracts for the building of two further motor ships, making five in all now on order, of which the first, m.v. *Barrington Court*, built by Short Brothers, Ltd., was successfully launched on the 1st inst. The next vessel will be the new *Framlington Court*, and I hope you were interested in the picture of her on the cover of the report. I would like to express our acknowledgments to the artist, Mr. F. W. Hopper, a director of Wm. Pickersgill & Sons, Ltd., who are building this vessel. This picture should give you an idea of the type of modern tramp ship we are having built for us. They are very costly, but when our new building programme is completed we shall certainly have a fleet of which we can feel proud and which we are confident can be profitably employed for many years to come.

Since the directors' report was sent to you another of our old coal-burning steamers, *Uffington Court*, has been sold at a price which would have been a great help in paying for our new and expensive tonnage were it not for the cruel "balancing charge" payable to the Inland Revenue.

Fallacy of High Profits

There seems to be a popular belief that current industrial profits are excessively high. This belief is based upon a fallacy, as in the first place more than half the so-called profits go to the Exchequer in taxation, then out of the remainder we have to build up reserves for replacement of plant (in our case ships). During an inflationary period we must be continually increasing these allocations in order to keep pace with ever rising costs, so if profits are measured in depreciating pounds they must increase or industry cannot continue. Indeed, the fact that profits today, reckoned in pounds, are higher than previously is the result of, and not the cause of, the fall in the value of money.

From the profit and loss account in your hands you will see that, while our gross profits showed an increase of approximately £96,000 over those for the previous year, the provision necessary for taxation increased by £105,000. This phenomenal increase is largely due to what is known as the "balancing charge" to which I have just referred in respect of the vessels which have been sold. It might have been argued that this charge, based as it is on the original or "historic" cost of those old ships, in principle would have been reasonable had replacement costs remained static, but it definitely cannot be reasonable when the cost of replacing vessels sold has risen by as much as 400 or 500 per cent.

Replacement Costs

Today it is impossible to get a shipbuilder to agree to a fixed price for the vessel he is asked to build. He will only submit a tender based on the existing cost of labour and materials—with a clause to the effect that any rise in either of these items will be added to the price of the completed ship.

This has been the case with our last three contracts which have had to be entered into without a fixed price. Thus the rise in the cost of steel alone since the contracts were signed will have the effect of adding at least £25,000 to the cost of each of these vessels and, in addition, the increase of wages recently granted will add about another £25,000 per vessel. It can readily be understood that this is a very serious matter and that if our industries are going to survive, either taxation or costs of replacement of wasting assets must be reduced, or both, otherwise industry must still earn higher profits, which would only have the effect of extending the vicious circle.

Your directors hope that the change of Government will, as soon as conditions allow, bring about an expansion of world trade by means of an abandonment of bulk buying, a freeing of currency restrictions, and a definite encouragement of multilateral trade, by which alone a seafaring island population such as ours can earn a living.

As regards Excess Profits Tax, surely, if the purchasing power of the pound continues to depreciate, this must be worse than dividend limitation unless it is at the same time the intention to change the whole basis on which profits are computed in such a manner as to allow sufficient funds to be put by annually before assessing taxable profits to provide in full for estimated costs of replacement of assets when they have reached the end of their efficient life. There can, I think, be little doubt that the Chancellor will see his way to expand beyond the present expiry date of April 1952 the 40 per cent initial allowances on new plant. For it seems that British shipowners who have not yet replaced their prewar fleets can now only do so by continually asking the public for more and more capital. This surely must mean that the old capital has in effect been seized by the tax collector and spent by the Government just as though it were current revenue. I fear that if these conditions persist there must undoubtedly be a gradual and steady decline in the replacement of the British mercantile marine. That, in the end, can only mean a heavy loss of invisible exports and eventually starvation for an island population such as ours.

Current Year's Outlook

It is very difficult to forecast the future trend of the freight market, but with regard to the current year all I can say is that our fleet has so far been profitably employed, and some of the ships are fixed on charters which will not expire until after we close our next accounts. An important element in the situation today is the reluctance of labour to take full advantage of modern appliances and machinery. The men's reason is apparently that improved machinery performs such rapid work that it might cause redundancy and unemployment in the future. Far from this being likely, the Americans have demonstrated that improvements in machinery tend to improve the earnings of the workers by creating more work, and by reason of increased output at a lesser cost full wages can be paid for a shorter working week. Unfortunately

the point is often overlooked that restrictive practices have a disastrous reaction on the economy of the country and, of course, have the effect of increasing the cost of living for everyone. Labour will never improve or even maintain its position by sticking to old methods and using old tools.

Need for Economic Production

There is no getting away from the fact that the economy and indeed the future solvency of Great Britain must be rebuilt, and as quickly as possible, if the nation is to be saved from bankruptcy. The only way to do this is to improve and modernise our methods and plant by availing ourselves of all the latest scientific inventions as they appear. The time is approaching when we shall find ourselves in a more competitive world where to produce goods for export at a price comparable with other manufacturing nations will be vital to our existence, and we must all realise that this can only be done by increasing production per man by taking advantage of all the latest aids for securing increased efficiency.

I would like to conclude by paying a warm tribute to the hard work and loyal cooperation during the past year of all our employees both ashore and at sea, and by thanking them for the good example they have set to others. In the interests of the nation, I only hope it will be followed.

The report was adopted.

Chamber of Shipping

Short-Sea Liner Section

THE annual meeting of the Short-Sea Liner Section of the Chamber of Shipping of the United Kingdom was held on December 13. Mr. J. W. Coats (General Steam Navigation Co., Ltd., London) presided and in his review of the year said:—

There has been a continuous rise in costs during the year. To mention some of the items—stevedoring, both in this country and abroad, has increased by roughly 10 per cent, bunker fuel by 22 per cent, marine insurance by 10 per cent and seamen's wages by 30 per cent. The cost of replacement has increased considerably in the last year and is continuing to increase, as does also the cost of repairs, port charges, stores, victualling and numerous other items.

Delays to our ships is another cause of increased expense, one of the major items being delay through labour trouble. The recent "go slow" at Tilbury affected some of our members very adversely and the "work to rule" of the London lightermen has hampered work and congested wharves and ships in London to such an extent that it will be months before the mess is cleared up. We are all the more thankful that on the Continent we continue to get a rapid turnround and can to a certain extent maintain regularity in our services by taking advantage of the quicker working and shift system at Continental ports. I estimate that at present our ships can be turned round on the Continent in 60 per cent of the time required in London. The same remarks apply in a lesser degree to other ports.

Repairs now take about three times as long as before the war and the shortage of manpower and materials is causing delays to be still more pronounced. No general increase in freight rates has been made since April 1, 1951. However, the recent increases in costs have been so pronounced, and the level of charter rates which have to be paid for vessels to supplement our services is so high, that the time has now come to consider revision.

During the year the amount of traffic carried has in my experience increased considerably. Many of the lines are having to supplement their fleets with chartered tonnage at high rates. As in London approximately 70 per cent of our cargo is for overside delivery, the recent "work to rule" of the lightermen has caused such congestion that the ships have been considerably delayed, thus necessitating further chartering of tonnage. We have to express our appreciation of the action taken by the Port of London Authority and the wharfingers, who have done so much to ease the position by accepting overside cargo on to the quay.

The recent Board of Trade regulation cancelling all open licences and restricting the import of certain commodities to a percentage of previous imports will no doubt affect the amount of traffic moving in future from the Continent. In this connection some important traffics from Germany, Holland, Belgium and France have been reduced to 20 per cent or 30 per cent of previous imports. The effect of this has not yet been felt by the short sea lines, but it is bound to be considerable.

Mr. J. W. Coats, who was vice-chairman of the Section when it was formed in 1944, and became chairman in 1947, has now resigned the chairmanship, and Mr. Graham Lovell (Bristol Steam Navigation Co., Ltd.) was unanimously elected in his place. The new vice-chairman is Mr. R. G. Grout (General Steam Navigation Co., Ltd.).

Tramp Freight Index

After the Council Meeting on the same day the vice-president, Viscount Runciman, stated that a review is to be made of the monthly tramp freight index. It is some time since the basis of calculation of the index was overhauled and it has been decided to submit it to examination by a special committee. The former index number issued before the last war was based on 1935 = 100. It was discontinued after August 1939. Publication of the present index started in 1949 and was based on 1948 = 100. With some minor alterations, the routes on which it is based are those used in the original calculation, the weighting and the method of calculation remaining unchanged. In 1948, when in some trades the rates for British vessels were controlled, while the rates for foreign vessels were free, the British controlled rate was used for the index. A periodic revision of the basis of the index is necessary to keep it up to date.

The Chamber of Shipping index number of tramp shipping freights for November 1951 is 172.9 (1948 = 100). The index number is based on tramp fixtures reported during the month, only fixtures in sterling being used. The following table sets out the progress of the monthly index number since 1948:—

INDEX NUMBER OF TRAMP FREIGHTS
(1948 = 100)

	1948	1949	1950	1951
January	111.3	87.1	72.8	151.9
February	104.5	100.5	75.5	164.7
March	105.5	95.0	75.8	180.6
April	107.7	94.6	74.4	176.8
May	104.6	99.7	71.4	203.8
June	99.8	86.7	74.3	179.0
July	99.4	73.3	78.8	179.6
August	100.7	70.6	86.6	149.3
September	97.2	71.6	89.0	166.5
October	98.8	69.8	95.8	190.4
November	88.8	66.5	97.6	172.9
December	86.8	72.8	115.7	—
Year	100.0	82.3	84.0	—

The situation in the Suez Canal Zone has required constant attention by the Chamber. Close consultation is maintained with owners whose vessels regularly use the Canal and with the Ministry of Transport and the Admiralty, and regular information reports are being circulated so as to keep members informed of developments in the Canal area. With reference to the announcement that the Safety of Life at Sea Convention will come into force on November 19, 1952, the work of considering the draft rules to give effect to the Convention is already under the consideration of the Technical Committee and the Structural Committee. The Chamber has been invited to support the new Dollar Exports Council, which, with the full backing of the Government, is to assist and encourage the renewed dollar export drive. The Chamber has accepted the invitation, and its knowledge and experience will be at the disposal of the Council.

JAPAN is to build 400,000 tons more shipping during the next Japanese financial year. Japanese shipowners will also be allowed to buy some 20 to 24 ships from abroad, provided they do not ask for loans for the purchase.

THE 9,000-tons passenger liner *Njassa*, built in Germany 45 years ago, has arrived at the Blyth yard of Hughes Bolckow Shipbreaking Co., Ltd., to be broken up. The ship was taken over from Germany during the First World War.

COAL AND OIL

A SURVEY OF THE OIL INDUSTRY

A VERY complete survey in miniature of the oil industry was given to the Institute of Transport last week by Mr. C. T. Brunner, a director and general manager of Shell-Mex & B.P., Ltd. Mr. Brunner was giving the seventh Henry Spurrier Memorial Lecture. He described the vertical structure of the oil industry, with the larger oil groups owning companies engaged in different parts of the world in exploration, production, pipeline operation, tanker operation, refining, chemical manufacture, storage and marketing. There are, of course, in addition, large numbers of small companies concerned only with one phase of the industry's operations, and the larger groups buy, sell and hire among themselves quite considerably, with a view to keeping costs, and particularly transport costs, down to a minimum. The principal groups trading outside the United States are the Anglo-Iranian (entirely British-owned), Shell (partly British and partly Dutch), and five big American groups—Standard Oil (New Jersey), Socony-Vacuum, Caltex, which is jointly owned by the Standard Oil of California and the Texas Company, Gulf and Atlantic. The position of Britain is unique in the world oil industry. There is practically no production of crude in Britain, the current rate from the tiny oilfield discovered in 1939 being only some 15,000 tons a year, out of a total world production in 1950 of 543,000,000 tons. Despite this fact, British and British-Dutch companies, which comprise the "sterling groups", accounted last year for no less than 18.2 per cent of the total world production of oil (compared with 14.5 per cent in 1938) and for over 40 per cent of the oil going into the world export and import trade.

Transport Fuelled by Oil

Mr. Brunner pointed out that oil in one form or another is today the principal source of fuel for transport as a whole. Of the world's merchant fleets, the proportion of the total tonnage fuelled by oil increased from 55 per cent in 1938 to 81 per cent in 1950 and, of vessels under construction in the United Kingdom in 1951, well over 95 per cent will be oil-fired. Looked at in a slightly different way, the United Kingdom is, of course, historically the leading coal bunkering country. In 1938, 10 tons of coal bunkers were delivered to vessels in British ports for every ton of oil bunkers, but by 1950 the proportion had fallen to 4:3 in favour of coal. The day is fast approaching when it will be exceptional for shipping to use any fuel other than oil. The strategic importance of coal as a material which is readily available in time of war has often been stressed. Mr. Brunner remarked: "In two world wars in this century, the availability of oil in the British Isles was greatly increased—had it been otherwise, victory would have been impossible—while that of coal, in spite of the national need, was sadly diminished. It is necessary also to have regard to the full maintenance and growth of essential industries and services in peace as well as in war, and the experience of the past few years has not been such as to give the public any feeling of assurance that the fact that a fuel is home-produced means that it will be available in adequate quantities during a cold winter." These words are very true. Although full use must always be made of as much coal as can be mined in this country, there are no signs yet that the supply is going to catch up with the demand again, and there can be no strategic reasons for limiting the use of oil.

Tanker Chartering

In their weekly report, Davies & Newman, Ltd., state that the tanker market has not been quite so active, although a fair amount of business has been concluded. The position with regard to British major companies is that they have now withdrawn from the market for period consecutive voyages and are only prepared to consider vessels for one, two or three trips, commencing January. Clean tonnage can also be fixed on a single voyage basis for early loading with full Western loading options to U.K./Continent. According to E. A. Gibson & Co., Ltd., efforts made by British major charterers during the past two weeks to halt the rapid upward trend in sterling rates have so far been successful, as very little change in values has taken place during this period. However, in an endeavour to secure rates above those obtainable on the London market some owners are exploring other channels, but it is evident some difficulty is being experienced in getting outside charterers to concede anything in excess of rates now established. According to reports from New York, cargo availability, so far as the Caribbeans area is concerned, is extremely tight, but conditions at other Western Hemisphere ports are reported to be much easier. Howard Houlder & Partners, Ltd., state that French charterers have now been able to cover single voyage at U.S.M.C. rate, plus 195 per cent, which represents a small decrease for this particular business, although it is still in excess of what is obtainable on the London market. Consecutive voyage fixtures have covered charterers' requirements in various directions over 1952 at the established rate of U.S.M.C. plus 100 per cent, but there would appear to be little, if any, further business of the nature for the present beyond one or two orders for five/six months' employment from January. In the report of John I. Jacobs & Co., Ltd., it is considered that the most interesting development in the time-charter section is the continuation of two large motorships for five years from 1955/56 at 24s., combined with a newbuilding of about 20,000 tons d.w., for five years at 25s., delivery 1956.

Shorter Items

FINA Petroleum Products, Ltd., has opened a modern depot at Shettleston Road, Glasgow. The depot, designed on the most modern lines, includes a gravity unloading ramp area, feeding into colour-identified pipelines feeding 10 tanks of 12,000 gallon capacity each. The company is running 3,600 gallon road tankers on a shuttle service from Grangemouth terminal to feed this depot.

THE South Wales coal export allocations for France, the district's largest single customer, have been arranged for the first quarter of 1952. The total releases from the whole of the United Kingdom for France during the quarter are expected to amount to about 100,000 tons, of which South Wales will supply about 80,000 tons. The remainder will be shared between the North of England and Scotland. In the current quarter France secured about 85,000 tons of Welsh coals.

OFFICIAL NOTICES

Increases of Capital

HADJILIAS & CO., LTD., shipping, insurance and general agents, etc., Bury Court House, 7/8 Bury Court, London, E.C.3.—Increased by £5,000, in £1 ordinary shares, beyond the registered capital of £5,000.

GRIFFIN-WOODHOUSE CHAIN CABLES, LTD., manufacturers of ships' cable chains, etc., Triton Buildings, Wood Lane, Cradley Heath, Staffs.—Increased by £30,000, in 15,000 "A" ordinary and 15,000 "B" ordinary shares of £1 each, beyond the registered capital of £20,000.

SUGAR LINE, LTD., shipowners, etc., Plantation House, Mincing Lane, London, E.C.3.—Increased by £999,900, in £1 ordinary shares, beyond the registered capital of £100. The shares have been allotted as follows: Tate & Lyle, Ltd., 449,998; Tate & Lyle Investments, Ltd., 50,000; West Indies Sugar Co., Ltd., 250,000; and the United Molasses Co., Ltd., 250,000

Twin testimony

OWNERS: Constantine Shipping Line Ltd.
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ENGINES: British Polar M44M.

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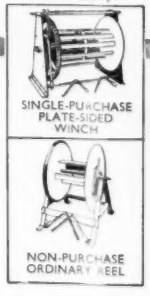

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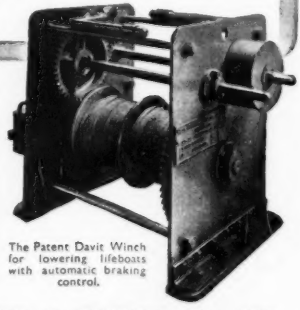

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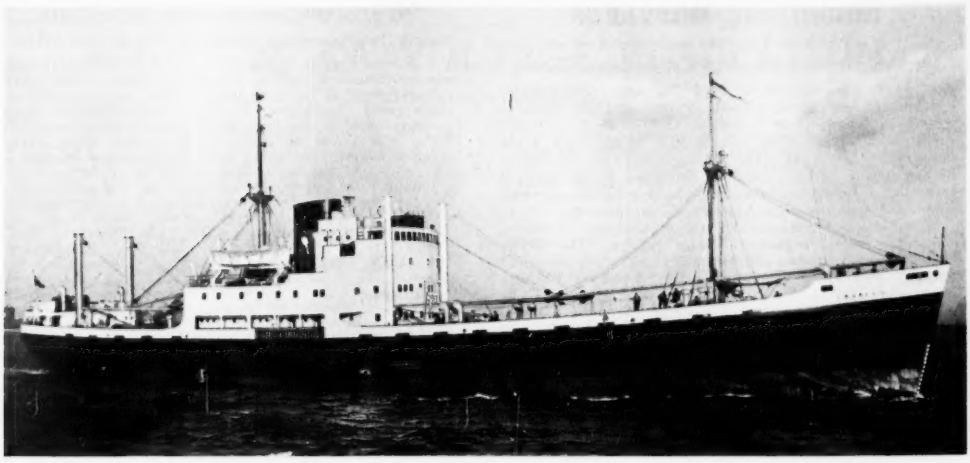

THE GEARED MOTORSHIP "CAVALLO"

SHORT SEA TRADER FOR ELLERMAN'S WILSON LINE

THE FIRST of two ships on order for Ellerman's Wilson Line, Ltd., from Henry Robb, Ltd., has recently been completed. Named *Cavallo*, she and her sister ship are designed to carry a wide range of cargoes, and are intended for operation between the United Kingdom and any ports in the Mediterranean or Scandinavia. The ship has four holds, one of which is refrigerated, and in addition has deep tanks for the carriage of oils in bulk. Accommodation is provided for twelve passengers. The propelling machinery consists of two diesel engines driving a single shaft through hydraulic couplings and single reduction gearing.

The *Cavallo* is attractively designed, and her appearance is in keeping with her size and type. With her machinery and superstructure three-quarters of the way aft, she represents a compromise, which is becoming increasingly popular, between having the machinery right aft, when ballasting and other troubles arise, and having it amidships. In a ship of this size it is preferable not to divorce the bridge structure from the machinery. If both are put right aft the problem of ballasting is considerably increased, while the navigating from right aft of a ship of this size, which may often have to enter narrow channels and small harbours, and come alongside without assistance, would probably not be generally favoured by masters.

The ship is of the shelterdeck type with tonnage opening, having tweendecks all fore and aft. Both hull and machinery were built under Lloyd's Special Survey to ✠100 A.1 classification, and comply with M.O.T. Regulations and Home Office and Factory Act requirements.

The principal particulars are:

Length b.p.	290 ft.
Breadth moulded	48 ft. 6 in.
Depth moulded to shelter deck	28 ft. 3 in.
Height of tweendecks	8 ft. 6 in.
Deadweight on 19 ft. 6 in. mean draught	About 3,000 tons
Service speed	13 knots

Forward of the main propelling machinery are three cargo holds, two for general cargo and the third, together with the tweendeck space immediately above, for refrigerated cargo. Abaft the machinery space there are two deep tanks each with a capacity of 100 tons, for edible oil. The aftermost hold is arranged for general cargo. The total bale cargo capacity is 173,807 cu. ft.

The holds and tweendecks are served by four large hatchways. In particular, No. 2 hatch is designed to take lengths up to 60 ft., and is fitted with two 10-tons derricks of such length as to serve a second rail line. The two 5-tons derricks at No. 3 hatch can also be used for working the after part of No. 2 hatch when required. Two 5-tons derricks are fitted at No. 1 hatch, and two of 5 tons at the after end of No. 4 hatch, with two 10-tons derricks at the forward end to serve the after hold and deep tanks.

The refrigeration hold is arranged in four separate compartments, all of which can carry cargo down to 0 deg. F. They have a total capacity of about 25,000 cu. ft.; in addition, 1,000 cu. ft. are provided for ship's provisions. The refrigerating machinery operates on freon gas and was supplied by J. & E. Hall, Ltd. The insulation work was carried out by J.D. Insulation Co., Ltd.

Passenger and Crew Accommodation

Accommodation is arranged amidships for 12 passengers in two single-berth staterooms and five double-berth staterooms. The main dining saloon is situated at the forward end of the bridge deckhouse, and can seat 24 persons at small tables. There is also an attractive lounge immediately over the saloon, approached by a wide stairway to the vestibule on the bridge deck. The walls of the saloon and lounge are attractively panelled with veneer and hardwoods. Rectangular windows, 24 in. by 18 in., are fitted in the lounge and saloon. The captain, officers, engineers, stewards and the stewardess are provided with good accommodation amidships, while the crew are housed in large three-berth rooms in the cruiser stern.

The ventilation and heating of all accommodation is on the Thermotank system. The cargo holds and tweendeck spaces are also equipped with Thermotank ventilating fans, and are particularly suitable for the carriage of fresh fruit. Each compartment is fitted independently with its own supply and exhaust fans in order to vary the air change as required.

The navigational equipment comprises, gyro compass by S. G. Brown, Ltd.; Kelvin-Hughes radar Type 2; wireless telegraphy, direction finder and echo sounding equipment by Marconi International Marine Communication Co., Ltd. Broadcast receivers are provided throughout the accommodation. The Brown gyro compass is this firm's Type "B" equipment, for direct steering from the master compass. This model incorporates a hydraulic support for the vertical axis of the gyro.

The propelling machinery comprises two eight-cylinder British Polar two-stroke diesel engines, each rated to develop 1,520 b.h.p. at 300 r.p.m. in service. These are coupled by Vulcan hydraulic couplings to a Vulcan gearbox, of twin-pinion, single-wheel type, which reduces the speed from 300 r.p.m. to 145 r.p.m. on the propeller shaft. Michell thrust blocks are provided.

Auxiliary power is supplied by three 185 kW diesel-driven British Polar generating sets, each capable of developing 280 b.h.p. at 500 r.p.m. One 39 kW Ruston & Hornsby generating and compressor set is provided. Both main and auxiliary machinery are fresh water cooled on the closed circuit system.

ROUND THE SHIPYARDS

Work in Progress in Scotland

By THE SHIPPING WORLD'S Own Correspondent

THE YEAR now ending is likely to see a substantial lowering of tonnage launched, as against 1950. Figures available to the end of November showed that the Clyde yards had launched 13 vessels and 23,397 tons gross fewer than last year. The East of Scotland showed a rather better return, with an increase of tonnage of 1,409 tons. December launchings have been on a limited scale and will do little to redress the balance.

New orders continue to come through steadily, although singly rather than in groups. The Clyde Navigation Trust has ordered a £290,000 self-propelled dredger from Fleming & Ferguson, Ltd., of Paisley, who have also on hand contracts for a passenger car ferry for the Trust and a hopper dredger for Burma. The Ailsa Shipbuilding Company, of Troon, has booked a motor coaster of 1,400 tons for Scottish owners. Two cargo steamers of 2,500 tons d.w. are understood to have been ordered from Henry Robb, Ltd., of Leith, and one of 1,600 tons d.w. for Ellerman's Wilson Line, although no formal confirmation has been made. Other orders are known to be in the offing, while inquiries continue to circulate.

Among launches there have been the oil tanker *Ceara*, from the Blythswood Shipbuilding Co., Ltd., for the Brazilian Tankers' Purchasing Commission; the 6,560-tons motor cargo vessel *Ebro* from Harland & Wolff for Royal Mail Lines; the *Sydhav*, for Norwegian owners, from Lithgows, Ltd., at Port Glasgow, and the cargo motorship *Olivine*, for William Robertson (Shipowners), Ltd., of Glasgow, from the Ailsa yard. The oil tanker *Corato* was scheduled for mid-December launching from the Greenock Dockyard Co., Ltd., while Wm. Denny & Bros. had the *Lord Warden* for British Railways. One point worth mentioning from these launchings is the determined effort which the Brazilians are making to enter the oil carrying trade. Mr. Hugh Macmillan, chairman and managing director of the Blythswood yard, referred to this trend at the launch of the *Ceara*. This is the second of four tankers ordered on the Clyde by the Brazilians. Others are building in Japan and Sweden, ensuring that Brazil will have a modern efficient fleet available in reasonable time.

Labour and Raw Materials

Mention of Japan recalls that advertisements have been placed, seeking qualified foremen, with welded tanker construction experience, for service in the Japanese shipyards. This search for skilled labour is unlikely to attract the recruits it might have, had conditions been more settled. The prospect of Japan as a competitor is again evident in this move. Meanwhile, the main problems facing Scotland are those of coal and steel. Sir John Duncanson, deputy chairman of Lithgows, Ltd., referred to these twins when he spoke at the Publicity Club of Glasgow. Steel formed perhaps 90 per cent of their raw materials, he said, and it was therefore unfortunate that the shortage of steel should be a factor in holding back the expansion of exports. On coal, he expressed the general surprise that we should be forced to import coal and that we had lost the valuable coal export trade which formed so vital a part of our prewar economic advantage. If anything can be done in the New Year to revive coal exports and to keep the yards supplied with steel, shipping and shipbuilding men would be content.

Labour reaction to the staggering of hours (because of power resources) has been irritating rather than serious. Token strikes may be good propaganda, but they are bad economics for all concerned. Again one returns to the old complaint that trade union leadership appears weak and uninspired, when such stoppages arise over events which are not the employer's fault and which have been the subject of negotiation. There is still too much readiness to flout agreements and a refusal to admit that the position demands constructive rather than destructive thinking.

NEW AUTOMATIC FIRE DETECTOR

Marine Development of the Danish "DAB" Fire Alarm

THE DANISH Automatic Fire-alarm Co., Ltd., of Copenhagen, was established in 1939 to manufacture and market a new patented type of fire detector, designed to give a reliable alarm easily transmitted to either a local watchman or by telephone line to the local fire brigade headquarters. The device is a simple one contained in a small plastic casing which is mounted at ceiling level. The principle followed is that of thermo-contacts; these are of two different types, providing both differential and maximum transmitters. The first type makes a signal when the rate of temperature rise exceeds a predetermined figure, normally about 10 deg. C., and the second transmitter operates when the defined "fire" temperature—usually about 70 deg. C.—has been reached. The makers claim that this dual function is unique in a fire detector. The transmitters are distributed in groups according to the size and position of the compartments, and the groups are connected up in series in loops, with about six groups to each loop. The loop itself has two wires each connecting one of the two sets of contacts in the transmitters with the main system. With the exception of the DAB transmitters themselves, and a spare battery, main fuses, and alarm bells, all parts of the installation are contained in a steel cabinet at the control location.

Following some years' satisfactory use of the DAB (Dansk Automatisk Brandalarm) transmitters in many factories, and approval by fire officers' committees in Denmark, Norway, Belgium and Finland, the device has now been introduced in the marine field. When used for marine purposes the transmitter is contained within an oil bath, to resist the effects of vibration and shock. The first ships fitted were small fishing vessels, where the installation cost some £40. Negotiations are now proceeding for the fitting of several oil tankers, where the cost for a vessel of about 18,000 tons deadweight will be in the region of £2,000, the spaces thus protected including all accommodation, the engine and boiler rooms and the main cargo pump rooms. Approval of the fire detecting system has been given, it is understood, by Lloyd's Register of Shipping and demonstrations are now being given to shipowners in this country. At a recent demonstration attended by a representative of THE SHIPPING WORLD, the effectiveness of the detector was shown when, as a result of a small and localised spirit fire in a large room, the detector at ceiling level operated within 20 seconds of the outbreak of fire. As the room temperature had not become unduly high, it was apparent that the differential transmitter had come into operation and had set the alarm in action owing to the abnormal increase in the rate of temperature rise. The new system of fire detection may be expected to be fitted widely in ships which are built to the 1949 International Convention, under which a combination of fireproof construction within zones with an approved system of detection is accepted.

RECENT SHIP SALES

Motor vessel *Lambrook* (7,038 t.g.), owned by the Austin Friars Steam Shipping Co., Ltd. (Galbraith, Pembroke & Co., Ltd.), and built by the Burntisland Shipbuilding Co., Ltd., in 1942, has been sold to the South American Saint Line, Ltd., and renamed *St. Merriel*. She is understood to carry about 10,260 tons d.w., and to have realised £325,000.

Liberty type cargo steamer *Lalande* (7,259 t.g.), recently transferred to the Lamport & Holt Line, Ltd., by the Blue Star Line, Ltd., under whose ownership she was named *Pacific Star*, has now been sold to Italian buyers. She was taken over at Birkenhead and has been renamed *Ninfea*. Built at Baltimore in 1944 as the *Samnid*, she is understood to have a speed of 11 knots and a deadweight of 10,568 tons.

Steam tanker *Denbydale H.* (7,293 t.g.), owned by the Hillam Shipping Co., Ltd. (J. Harker, Ltd.), Knottingley, Yorks., and built by R. Duncan & Co., Ltd., Port Glasgow, in 1935 as the *Valdemosa*, has been sold to the Brede Shipping Co., Ltd., London. She is to be renamed *Saladin*.

The Currie Line, Ltd., has sold the cargo steamer *Spruceland* (1,793 t.g.), built at Sturgeon Bay, Wis., in 1942 as the *Kimball Harlow*, to Norwegian owners. She carries about 2,820 tons d.w., and is understood to have realised about £90,000.

AN ENTIRELY new type of railway wagon for the carriage of iron ore has been designed by British Railways, and 30 are now being built. They are fitted with side discharge doors which are hydraulically operated, and can be opened simultaneously throughout the train from the locomotive footplate.

Electrical Installations for Ships—XIII

PROBLEMS OF VOLTAGE REGULATION

By H. J. D. THOMPSON

IN VIEW of the fact that on certain ships with A.C. electrical installations unsatisfactory voltage regulation was a part reason for the past replacement of A.C. winches by D.C. winches, it seems surprising that so much confidence has been shown by A.C. enthusiasts over the extent to which "direct on" starting is advocated for large horsepower auxiliary drives. The winch drives which gave unsatisfactory voltage regulation were modest 30 h.p. motors, yet Mr. Pestereff advocates "direct on" starting for h.p. drives up to the full capacity of the alternator.

Land practice has been taken as a standard for A.C. installations. There is, however, a considerable difference in the extent to which "direct on" starting can be developed for satisfactory voltage regulation on land and at sea. The large land power station's generating plants enable the largest power industrial high voltage drives to be "direct on" started, with a fine time interval of high voltage dip scarcely reflected on the low voltage networks. The ratio on land of the running generating plant to the big horsepower industrial drives is never lower than 20 to 1. With the limited generating capacity at sea, even on a *Queen Mary*, the corresponding ratio (main circulating pumps, 285 h.p.; generating capacity, four 1,300-kW machines with three running two-thirds loaded) is only 7 to 1.

With little background of experience, the classification societies are confronted with an extremely difficult proposition in formulating rules as to the extent to which "direct on" starting can be installed on a large A.C. passenger liner. The subject is essentially an empirical one, the limiting factor being the time limit for duration of the voltage dip.

Difficulties of Voltage Regulation

Neither Mr. Savage's simple carbon pile regulator nor Mr. Pestereff's elaborate equipment overcome the inevitable 20 per cent voltage dip on heavy transient loads, and one wonders why such expensive equipment has been advanced when it can accomplish nothing to provide the relatively satisfactory voltage regulation which D.C. systems provide. In considering this vitally important subject for a satisfactory operational A.C. system, we are confronted with many difficulties.

(1) The squirrel cage motor is fundamentally very sensitive to supply voltage changes, because the torque is proportional to the square of the voltage. Thus Mr. Pestereff's toleration of 20 per cent voltage dip infers the acceptance of a 28 per cent reduction in torque with the possible stalling of important auxiliary drives, further aggravated by the blowing of fuses and the time spent replacing them.

(2) With respect to ship's lighting, a modest 5 per cent drop in voltage supply results in a fall of 15 to 20 per cent of illumination intensity. If compensation for voltage dips is made by modifying the tappings on the lighting transformers an increase of 5 per cent in the voltage reduces the life of the lamp by one half—a 2½ per cent higher voltage shortens the lamp life by one-fifth.

(3) Voltage regulation is complicated by the fact that the reactions caused are not only dependent on the loading of the alternator but also on the phase relation of current and voltage as well as the degree of saturation of the magnetic circuit. The changes in voltage are influenced by the power factor of the load. The lower the power factor, the greater the dip in voltage.

Thus substantial help could be given (1) by installing capacitors on the more highly powered auxiliary drives, or (2) by severely restricting the size of the drive for "direct on" starting. The A.C. enthusiasts advocate neither of these measures, possibly because of the fire risks which oil immersed capacitors involve, and also because of the substantial increase in economic costs of either of these measures. The latter factor appears to be the dominant one in their considerations. An alternative measure for improving voltage regulation would be to design the alternators for close regulating and quick acting regulator equipment such as the Brown Boveri designs.

This, however, would add very substantially to the cost, weight and volume, since it necessitates very long air gaps and much field copper. This combination would exceed the cost of the criticised D.C. dynamo. Moreover, the close regulation alternator unfortunately has the disadvantage of permitting very large short circuiting currents, beyond the rupturing capacity of the normal standardised switchgear.

In contrast, the alternator designed with large regulation is much cheaper and has a considerable reactance which is most useful in limiting short circuiting currents to within the rupturing capacity of standardised switchgear.

Mr. Pestereff subsequently advances four proposals to surmount the difficulty, and two of these innovations are unlikely to appeal to the severely practical minds of superintending engineers and the liner's operating personnel. The other two propositions further increase the economic disadvantages of A.C.

(1) Specially designed non-standard induction motors with stand-still torque 60 per cent of full load torque. Unfortunately no indication is given of the increased cost.

(2) The provision of special regulating equipment for transformers where close voltage control is required. No indication is given of the additional cost involved.

(3) The starting of an additional generator when large auxiliary drives are being started "direct on," and, if necessary, bringing the motor up to speed with the incoming generator. No reference is made to the possible positioning of the generator and auxiliary drive in different compartments. This provides difficulty and complexity—characteristics that Mr. Pestereff sets out to eliminate.

(4) The transference of the ship's lighting and other similar low power circuits to the emergency generators—an even more impractical proposition. On a *Queen Mary* the average lighting load alone will approximate 600 kW. How can this be transferred to the two 75 kW emergency sets? No reference is made to the substantial additional cost of cabling, etc., to carry out this proposition. Smaller liners will show proportionably a similar relationship between the normal lighting load and the limited emergency generator capacity.

In the writer's opinion, if there is to be no lowering in the high standard of our best D.C. passenger liners' installations, the crucial test of the soundness of an A.C. system is to install equipment that will function satisfactorily under crisis conditions. The safety of a modern *Queen Mary*, costing, say £20,000,000, should not be jeopardised when three uncoordinated directives simultaneously impose heavy demands on its main machinery generating sets running under normal conditions, such as three units on two-thirds loading, as follows:

(1) The navigating officer receives an S.O.S. call from a distressed vessel or suddenly observes an iceberg or other dangerous obstruction, requiring the helm to be moved sharply "hard over" when the liner is travelling at high speed. The steering gear motor instantly increases its load on the generating sets from a mere 20 h.p. to its maximum 250 h.p. The movement should be accomplished in 30 seconds.

(2) The engineer observes defects such as leaky glands, hot bearings or impeller erosion in one of the 285 h.p. main circulating pumps and starts up the standby unit.

(3) The float switch of the sanitary pump brings into operation the 45 h.p. pump.

Heavy Transient Load

The above operations superimpose on a load of 3,470 kVA at 0.75 power factor a transient load approximating to 3,000 kVA at 0.4 power factor, resulting in a load of 6,000 kVA at 0.55 power factor for a duration of anything from a minimum of 20 seconds up to 75 seconds. If the liner's speed is 25 knots, would a sluggish helm movement for 20 seconds be satisfactory to the navigating officer for the safety of a £20,000,000 liner? Obviously his opinion, and not the electrical specialist's prejudices for or against A.C., should determine this issue. Similarly the decision regarding any engineroom auxiliary drives stalled for a similar time period must be made by the marine engineer.

The electrical specialist, however, has his problem with respect to the selection of the fuse protection. Should this be quick acting, or slow acting, of limited capacity to give protection for line current, of increased capacity for stalling, or of extra capacity for starting currents? Whichever selection is made it cannot satisfactorily fulfil the requirements of every operational condition.

Similarly, considering the hotel generating plant, the surgeon performing a delicate operation and the dentist

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drilling a tooth must be safeguarded against possible decreased illumination and stalling of machines when the largest ventilating units are started simultaneously with the switching in of the two dining rooms' loads, approximating to 250 kW.

The extent to which "direct on" starting can be feasible under critical conditions is at present a matter of guesswork. The experimental A.C./D.C. United States liner of Fox & Coleman's planning should afford some helpful guidance on this subject.

If 35/40 h.p. is found to be the upward limit for large liners, then a very substantial part of the savings claimed by A.C. sponsors is eliminated, and the advantages of price and simplicity of control gear are to the credit of D.C. for all drives above 40 h.p. Below that range the two-stage contactor can be installed for D.C. machines to compete in simplicity, but not in cost, with "direct on" A.C. starting.

Safety is best reviewed under three headings: (a) shocks to personnel, (b) risks to apparatus, and (c) fire risks. With respect to the safety of personnel, D.C. has an overriding advantage. Peak voltages of 1.424 times the RMS voltage must be considered, compared with the uniform 220 volts of direct current installations.

For equal voltage, medical research has pronounced that the shock risk of A.C. is three times as severe as that of D.C. In view of the unequal voltages (D.C., 220; A.C. 415 RMS and peak voltage 590) the risk-factor is in favour of D.C. by the ratio of 7½ to 1. If Mr. Pestereff's proposal of using 2,300 volts (peak voltage, 3,240) for motor drives in excess of 50 h.p. is adopted, then the risk factor favours D.C. by the ratio of 44 to 1.

The classification societies' recent approval of 415 volts for A.C. cooking apparatus on tankers represents a surprising confidence, in view of the amount of attention required for land cooking apparatus, and the fact that the risk element of fatal shocks is decidedly greater on a ship with the very low resistance of the extensive steel hull.

With respect to ships' general fixed lighting, several A.C. sponsors advocate raising the limiting voltage of A.C. to 220 volts, i.e. the same as is permitted for D.C., ostensibly because 220-volts fluorescent lighting has been approved for public rooms. Their probable reason is to equate costs with D.C., as a 110-volts A.C. system shows about 6 per cent increased expenditure over 220-volts D.C. lighting.

Classification Societies' Requirements

The classification societies have given great encouragement to A.C., but this does not require them to approve every measure advanced to increase the economic prospects of A.C. installations. The writer considers that the existing regulation is too sound to be modified, and it is consistent with the societies' regulations on portable connections and tanker requirements. The 42-volts A.C. lighting system installed in the French passenger liner *Ville de Marseille* (described in WORLD SHIPBUILDING, August 1951), indicates the respect of the French shipowner for safety.

If the unearthed neutral system favoured by Mr. Savage and by Mr. Pestereff for large liner installations is installed, the degree of danger to personnel and apparatus is increased. Earthing the neutral may involve an interruption of services which might be avoided with the unearthed neutral, but it provides a greater safety factor by restricting the maximum voltage pressure to earth from any phase line to 58 per cent of the line voltage, and this safeguards the lower voltage apparatus whereas the insulated system threatens it. Generally, experience favours the earthed system as affording a greater freedom from breakdowns of apparatus and greater safety to personnel.

Earth faults are unfortunately frequent occurrences in ships' installations, whether D.C. or A.C. With the insulated neutral an earth fault seldom makes itself immediately apparent, but if the neutral is earthed a fault on the system at any other point constitutes a short circuit, and if automatic protective devices are installed cuts out the faulty section. On an insulated system, the voltage break on any line conductor may reach any value up to breakdown voltage. It follows that the three-wire system with transformers is the best proposition with its sectionalising of faults, but naturally it adds substantially to economic costs.

Logic appears to restrict the insulated neutral to warships, with their larger numbers of trained personnel and their requirement to continue in action whatever breakdowns occur. The frequent changing of ships' personnel and the smaller numbers of maintenance staff on a liner suggests that the earthed neutral system is the right one for passenger liners, where the most important auxiliaries are duplicated. On a 415-volts three-phase A.C. system, the thickness of the dielectric on the cables is the same for both earthed and unearthed systems, so there is no increase in cabling costs. With high voltages, the cables for the insulated neutral are naturally more expensive than for the earthed neutral systems.

The gradual evolution of progressive designs in ships' electrical apparatus and cables has culminated in a high standard of safety for the D.C. equipment on the large number of large passenger liners, both past and present.

Experience with A.C. equipment on tankers indicates that there would be no falling off in the standards of safety if A.C. systems are installed in liners, provided a careful check up is made on motor control requirements, such as the correct number of overload devices for the system installed, their positioning and correct connection, rotor particulars when slip-ring motors are installed, right data regarding starting torque, starting resistance rating and maximum ambient temperatures encountered, close inspection of efficient locking of all connections, and no abuse of starters for inching purposes.

Fire Risk

For fire risks, A.C. offers a very substantial advantage, because of the commutator sparking of D.C. machines, and the greater difficulty of breakers interrupting D.C. circuits. Here the ratio favours A.C. by 7 to 1 on account of the inductive pressure rises and more vicious D.C. arcing, which requires magnetic blow outs and greater attention to sparking tips and clearances above the arc, besides more provision for sparking and wear and tear.

The only offsets to this A.C. fire risk would be the oil-immersed capacitors and oil-immersed transformers. The A.C. sponsors wisely reject the use of chlorinated compound insulated transformers, not only for economic reasons, but for safety purposes on account of possible emission of poisonous gases. In spite of contrary remarks, it is very doubtful if air-cooled transformers of adequate capacity to provide the 1,450 kW of cooking apparatus installed on the *Queen Mary* could be manufactured, without installing many single phase units of limited capacity. This measure would further increase the economic advantages of D.C., besides effecting a still greater reduction in the revenue earning capacity of the liner.

One must await with interest the possibilities of the hermetically sealed inert gas-filled transformers, but here again, if the U.S. experiments are successful, a price will have to be paid for this greater degree of safety from fire risk.

In reliability, it is the writer's opinion that there is not a great deal of difference in the two systems, reviewing the complete installations. The A.C. squirrel cage motors, particularly in the range from fractional to 5 b.h.p., are certainly far more robust than the D.C. motors: on the other hand, for overload conditions the D.C. motor has the advantage. A.C. contactor gear is decidedly less reliable than D.C., in spite of the relative higher breaking capacity of A.C. breakers.

From the remarks of some of the participants in the discussions regarding the behaviour of both D.C. and A.C. apparatus when subject to underwater explosions, blast and warfare experience, one might be led to believe the standards of reliability on both systems were of a low order. This is not fair, as liners are not built for warfare. The standard of reliability of passenger liners' electrical equipment in its natural peacetime occupation compares very favourably with the mechanical standards of fans, pumps, winches, compressors, condensers and other auxiliaries, and usually exceeds the reliability of small diesel engines.

The almost universal adherence of passenger liners to the D.C. system renders it almost unnecessary to say that D.C. at present provides a substantial advantage through its familiarity to seagoing personnel. The present status of electrical officers in the mercantile marine is not a stimulant for the brighter electrical minds to make a permanent career at sea.

Until the Ministry of Transport introduce much overdue legislation, the recruitment of electrical personnel for A.C. passenger liners must be mainly drawn from the increasing numbers of A.C. tanker personnel. There is, of course, a substantial difference in the relative simplicity of the A.C. tanker and the more complex layout of either the composite A.C./D.C. system or the complete A.C. large passenger liner. It would probably require a 10-years period after its first introduction before we could put A.C. on an equal footing to D.C. as regards the availability of experienced seagoing electrical personnel.

With such an extensive subject, it is quite impossible to cover adequately all the aspects of psychological valuations. The writer believes that the majority of engineers are of the opinion that on balance D.C. is more favourable than A.C. with respect to the matters covered in this and the preceding article.

RECENT TECHNICAL DEVELOPMENTS

Miniature Circuit Breaker

A new range of miniature circuit breakers has been developed by Dorman & Smith, Ltd., of Manchester. These breakers, which are supplied in a series of standard current capacities up to a maximum of 50 amps, are intended to operate at up to 500 volts A.C. or 250 volts D.C. They consist essentially of a switch with overload release, which may be used either primarily as a switch, with overload protection of the circuit controlled, or primarily as a fuse with instantaneous resetting. There are many potential applications of circuit breakers of this type both in industry and shipping. The six standard current ratings are 2.5, 5, 10, 15, 30 and 50 amps, but a considerable number of non-standard ratings can be supplied at extra cost. The trip may either be of the instantaneous type, or may incorporate a time delay unit. The size of a breaker is 3 in. in height, $1\frac{1}{8}$ in. wide, and 3 in. in depth. This compactness allows them to be assembled conveniently in distribution boxes. The certified rupturing capacity on D.C. is 10,000 amps at 250 volts. Considerable attention has been given to the design, and it would appear that this has resulted in the production of a satisfactory unit.

Slide Rule for Belting Calculators

To work out the most efficient and economical width of belt for any particular drive involves a good deal of calculation and usually requires the use of a slide rule and belting tables. The new "Grinalculator" solves this problem in the simplest fashion. This is a calculating rule so designed that it can be used even by those who may be unfamiliar with the ordinary slide rule. To find the belt required for any particular drive it is only necessary to set the slide so that the pulley diameter coincides with the pulley revolutions per minute. It is then possible to read off at a glance belt speed in feet per minute and the width of the belt required to transmit any given horsepower. The calculator may also be used in a variety of ways when designing belt drives. For example, when given size and speed of motor pulley the speed or diameter of the driven pulley can be determined without further setting. Also, the corresponding belt speed can be read through a window in the slide for all settings of the slide. A table also provides the minimum recommended pulley diameters for all thicknesses and types of belting. This simple procedure is achieved by the use of a reversed logarithmic scale which enables all the required answers to be given with one setting of the slide. The instrument is a precision calculating rule, made in transparent plastic, which can be easily carried in the pocket. It can be obtained from Lewis & Tylor, Ltd., Grimoly Mills, Cardiff, by engineers and executives who make an official request and enclose a $2\frac{1}{2}$d. stamp to defray cost of postage.

Remote Reading Mechanical Meter

An instrument for the measurement of mechanical quantities by electrical means, capable of presenting the readings at a distance, has been developed by the research laboratories of The General Electric Co., Ltd., and Salford Electrical Instruments, Ltd. Basically, the system measures lengths or alterations in length of up to 0.1 in., but naturally it can be employed for the measurement of other mechanical quantities, such as pressures and temperatures, and it would appear to have a wide range of potential applications in industry. The instrument operates from ordinary A.C. mains, and the readings can be transmitted over a distance of several miles. The basic principle employed in the system is the change of inductance in a circuit, and the accompanying diagram shows how this is effected. The troubles of some earlier systems using this principle, due to magnetic leakage, temperature errors and poor electro-mechanical efficiency, have been overcome by the use of an entirely new magnetic powder material known as "Gecalloy PL." The accuracy of the system is claimed to be high, and unaffected by changes of mains voltage and frequency of as much as 30 per cent and 10 per cent respectively. The accuracy is also unaffected by changes of ambient temperature. The transducer unit is about 5 in. long, and the indicator is similar in size and appearance to a normal moving coil switchboard instrument. At present this latter is only available with a 100 deg. scale, but a model with a 270 deg. scale is to become available later.

Propeller Milling Machine

A recent Norwegian patent by A. Tveitan and L. Myrholt, of Trondheim (British Patent No. 655,317), describes an apparatus which machines, with theoretically unlimited accuracy, the whole surface of conventional screw propellers, i.e., the pressure and suction surfaces, the blade outline and the hub exterior. The machining consists of cutting out the lines representing the intersection of the propeller surface with a series of meridian planes (planes having the propeller axis as their common intersection line). The cutting edge of an end-milling cutter rotates in the meridian plane concerned, and its movement in relation to the propeller is regulated by a transparent disc which is made to describe the meridian curve in question on a drawing of such curves fastened to a movable table. The disc is cut in the shape of a circle or an ellipse, representing the cutter, and is mechanically connected to the cutter holder. Most propeller milling machines are able to cut cylinder sections only, i.e., the intersection of the propeller surface and a series of cylinder surfaces with their common axis identical to that of the propeller. But as it is not practicable to make the milling cutter with an infinitely small diameter, it is generally not possible by simple mechanical means to cut cylinder sections with mathematical accuracy without modifying the drawing in a rather complicated way.

A feature of the patentees' milling machine is the simple mechanical means required for cutting in meridian sections compared to cylindrical ones, if the drawing of the section is not permitted to be modified otherwise than possibly by using different scales in the two principal directions of the drawing. Cutting in meridian sections also causes no difficulties for normal screw propellers in passing from blade to hub, or machining the hub between the blades of the propellers. The machine can easily be arranged for simultaneous cutting of two diametrically opposed blades of a propeller, instead of the simultaneous cutting of two blades of different propellers.

New Primer for Light Alloys

Since aluminium and other light alloys are being used in ever increasing quantities it is timely that International Paints, Ltd., should have produced a new primer for these metals. Before light alloys can be painted they must be etched in order to give "tooth." They must also be primed. "International" S.E. Primer etches the surface and itself forms the priming coat in one and the same application. After this treatment the surface will be coated with an extremely adherent corrosion inhibitive film which provides excellent "tooth" for the undercoats and finishing paints. This primer may be air dried or stoved.

Preliminary publications describing two new pieces of equipment produced by the company have been issued by Sunvic Controls, Ltd., a member of the A.E.I. group of companies. One, the resistance thermometer controller RT 2, has been designed to overcome the effect of the variations of voltage and frequency, often found nowadays on the electric mains, on the temperature control of electric furnaces. The other, the electronic relay Type ED 2, is specially designed to remove a source of error when used in conjunction with certain types of temperature control device.

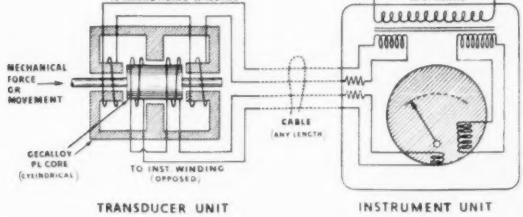


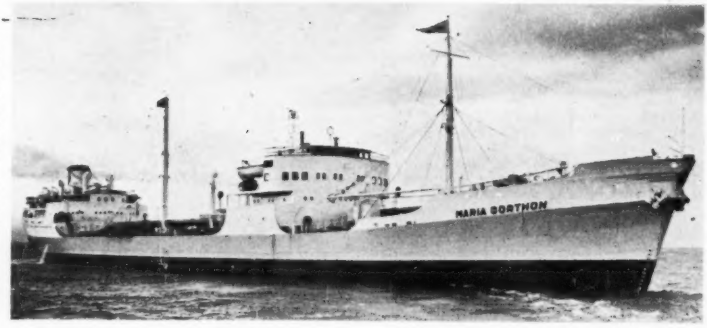
Diagram showing the operation of the new system of electrical measurement developed by the General Electric Co., Ltd., and Salford Electrical Instruments, Ltd.

Cargo and Passenger Ship for Portugal

Designed for cargo and passenger service on the Portuguese East African coast, the twin-screw motorship *Save* has been completed by the Grangemouth Dockyard Co., Ltd., for the Companhia Nacional de Navegacao, of Lisbon. Of about 2,300 tons gross and with a deadweight of 1,330 tons on a draught of 14 ft., the *Save* has dimensions of 240 ft. length b.p., 41 ft. 3 in. breadth, 14 ft. 3 in. depth to lower deck and 21 ft. 9 in. depth to upper deck. There is accommodation for first-class passengers in six two-berth cabins and accommodation is provided in the tweendecks for about 1,000 native passengers. The propelling machinery has been supplied by British Polar Engines, Ltd., and consists of two 5-cylinder diesel engines, each developing 900 b.h.p. at about 280 r.p.m. A mean speed of 12.85 knots was attained on trials in loaded condition

Motor Tanker "Maria Gorthon"

The single-screw motor tanker *Maria Gorthon* has been delivered to Rederi A B Gylfe (Gorthon Lines), of Helsingborg, by Kockums Mek. Verkstads A B, Malmo. The vessel has a gross tonnage of 8,864 and carries a deadweight of 13,235 tons on a draught of 27 ft. 2 in. Her principal dimensions are 465 ft. length b.p., 62 ft. breadth moulded and 34 ft. 6 in. depth moulded. There are 19 cargo oil tanks with a total capacity of about 616,400 cu. ft. A loaded speed of 14 knots is maintained by a 7-cylinder two-stroke double-acting M.A.N.-type diesel engine supplied by the shipbuilders. This engine develops 4,500 s.h.p. at 110 r.p.m.

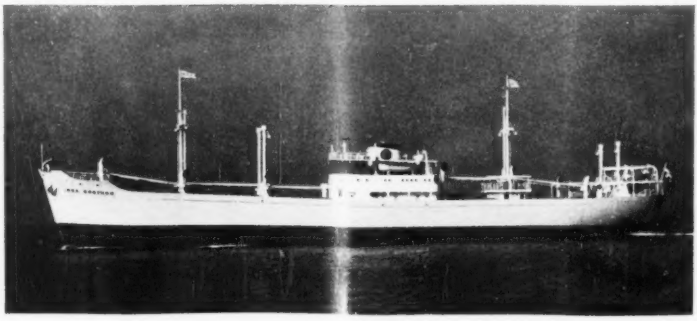


Turkish Ferry "Kiskulezi"

The first of four ferries ordered by the Turkish Government from Anciens Chantiers Dubigeon, Nantes, has been completed. She is the vehicle and passenger vessel *Kiskulezi*, intended for operation by the Port of Istanbul Authority. She is of 1,345 tons gross and carries a deadweight of 350 tons on a draught of 9 ft. 10 in. Her principal dimensions are 196 ft. 10 in. length o.a., 189 ft. 8 in. b.p., 47 ft. 10 in. breadth moulded, 17 ft. 5 in. depth amidships and 15 ft. 9 in. depth at bows. The 38 cars carried by the vessel can be loaded at either stern or bow. A total of 700 passengers can be carried in first- and second-class accommodation. The two main 1,050 h.p. Sulzer diesel engines have been constructed by Ateliers et Chantiers de la Loire

Cargo Liner "Inga Gorthon"

A further vessel has been completed for a Gorthon group company by Kockums Mek. Verkstads A. B, Malmo. She is the single-screw motor cargo liner *Inga Gorthon*, ordered by Rederi A B Gefion, of Helsingborg. With a gross tonnage of 1,959 and a deadweight of 3,450 tons on a draught to summer freeboard of 19 ft. 3½ in., the *Inga Gorthon* has a length o.a. of 321 ft. 11 in., b.p. 300 ft., breadth moulded 45 ft., and a depth moulded to main deck of 19 ft. 8 in. The propelling machinery has been supplied by the shipbuilders and comprises a 9-cylinder two-stroke single-acting M.A.N.-type diesel engine, developing 3,075 i.h.p. and providing the vessel with a loaded speed of 14½ knots



NEW CONTRACTS

Yards in Great Britain and Northern Ireland

Shipowners	No. of Ships	Type	Approximate Tonnages: Gross	Approximate Tonnages: Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Reardon Smith Line	2	Cargo	—	9,100 (each)	—	—	4-cyl. diesel	—	Shipbuilders	Wm. Doxford
Gorrissen & Klaveness A/S, Oslo	2	Ore carriers*	—	21,700 (each)	610 × 80 × 29 (draught)	15	Doxford diesel	10,000 (each)	—	Fairfield S.B.
S. H. Smith Sorensen, Arendal	1	Tanker	—	26,400	—	—	6-cyl. diesel	—	Wm. Doxford	Sir James Laing
Dodwell & Co.	1	Dble.-ended pass. ferry	—	—	—	—	Diesel	495	Crossley Bros.	Yarrow & Co.
Overseas Tankship (U.K.)	1	Tanker	12,000	—	—	—	Steam turbine	7,500	Shipbuilders	Scotts' S.B.
Star Whaling Co., Channel Islands	1	Tanker	11,350	—	—	—	Doxford diesel	5,500	Shipbuilders	Scotts' S.B.

Commonwealth and Foreign Yards

Shipowners	No. of Ships	Type	Approximate Tonnages: Gross	Approximate Tonnages: Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Standard Oil Co. of California	1	Tanker	—	18,000	503 × 68 × 40	—	Steam turbine	7,700	—	Sun S.B. & D.D. Co., Chester, Pa.
Einar Rasmussen, Kristiansand	1	Tanker†	—	24,000	—	15	—	—	—	Eriksbergs M.V., Gothenburg
Hamburg owner	1	Tanker	2,300	3,500	302.5 o.a. × 43.2	13	Diesel	—	—	Norderwerft, Hamburg
Deutsche Dampfs.-Ges Hansa, Bremen	2	Cargo	700 (each)	1,200 (each)	200.2 × 34.5 × 19.4	—	Diesel		—	Atlas Werke, Bremen
Übersee-reederei A.G., Rabien & Stadtlander, Bremen	1	Cargo	700	1,200	200.2 × 34.5 × 19.4	—	Diesel	—	—	Atlas Werke
Ahrenkiel & Bene, Hamburg	2	Cargo	1,000 (each)	1,700 (each)	226.4 (long)	12-13	M.A.K. diesel	1,400	—	W. Holst, Neuenfelde
Argo Reederei, Richard Adler & Co., Bremen	1	Cargo	—	2,800	282.2 b.p. × 42 × 18	12.5	Diesel	2,000	—	Adler & Co., Argo-Hafen-werkstatten, Bremen
Rederi A.B Walltank, Stockholm	1	Tanker	—	4,000	—	12.5	Quad.-exp. steam, turbo-compressor	—	Shipbuilders	Helsingborg Varfs.
Orion Shipping & Trading Co., New York	2	Tankers	—	29,250 (each)	644 × 85	16	—	—	—	Bethlehem Steel Co., Quincy, Mass.
—	2	Tankers	—	29,250 (each)	644 × 85	16	—	—	—	Bethlehem Steel Co., Quincy
Soc. Fouquet-Sacop, Marseilles	1	Coastal tanker	—	1,150	—	12	M.A.N. diesel	1,050	—	Biiker's Aanemings-bedrijf, N.V., Gorinchem
A. H. Basse Rederi A/S, Copenhagen	1	Coaster	—	450	—	—	Diesel	—	—	Firma Worst & Duttmer, Meppel
Fosens Damps. A/S, Trondheim	1	Pass. coaster	460	—	—	13	M.A.N. diesel	1,000	—	Trondhjems M.V.
Agdesidens Rederi A/S, Arendal	1	Tanker†	—	18,000	—	—	Diesel	—	—	Eriksbergs M.V., Gothenburg

* The contract for two ore carriers has been acquired by Gorrissen & Klaveness A/S from other owners. The Liberian Navigation Corporation ordered two ore carriers from Fairfield early in 1950. † To replace contracts for cargo liners previously placed with Eriksbergs by the same owners.

LAUNCHES

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages: Gross	Approximate Tonnages: Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Dec. 1	F. T. Everard & Sons	*Sonity* (356)	Cargo	750	—	—	—	Diesel	—	—	Fellows & Co.
Dec. 5	Barbados Govt.	*Lord Willoughby* (260)	Tug	60	—	—	—	Diesel	—	—	Whites Shipyard (South-ampton)
Dec. 10	Wallasey Corpn.	*Egremont*	Pass. ferry	645	—	145 b.p. × 34 × 12.25	13.75	Tw.-scr., 8-cyl., 2-str. diesel	1,280	Crossley Bros.	Philip & Son
Dec. 12	T. & J. Harrison	*Forester* (569)	Cargo liner	8,377	10,400	452.5 × 59.9 × 35.1	12	Tr.-exp. steam, exh.-turbine	—	Shipbuilders	John Readhead
Dec. 14	Hadley Shipping Co.	*Corato* (477)	Tanker	11,400	16,500	512 b.p. × 69 × 38.5	13.5	5-cyl. Doxford diesel	5,500	Scotts' S.B.	Greenock Dockyard

TRIAL TRIPS

Yards in Great Britain and Northern Ireland

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages: Gross	Approximate Tonnages: Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
Dec. —	South Eastern Gas Board	*Croydon* (346)	"Flat-iron" collier	1,871	2,875	265.83 b.p. × 39.5 × 18.5	—	8-cyl. diesel	1,150	British Polar Engines	Burntisland S.B.
Dec. 4	F. T. Everard & Sons	*Seniority*	Cargo	1,550	1,815	225 × 37.83 × 16	10.75	4-cyl., 2-str. diesel	800	Newbury Diesel Co.	Goole S.B.
Dec. 11	T. & J. Harrison	*Crofter* (568)	Cargo liner	8,377	10,400	452.5 × 59.9 × 35.1	12	Tr.-exp. steam, exh. turbine	—	Shipbuilders	John Readhead
Dec. 11	Booth S.S. Co.	*Hildebrand* (1213)	Pass. and cargo	7,400	—	405 b.p. × 60 × 37.5	—	Dble.-red. geared turbine	—	Shipbuilders	Cammell Laird
Dec. 12	Alexander Shipping Co.	*Newbury* (1060)	Tanker	11,000	16,000	499 × 68 × 37.16	—	5-cyl., 2-str. Doxford diesel	5,500	D. Rowan	Lithgows

Commonwealth and Foreign Yards

Date	Shipowners	Ship's Name and/or Yard No.	Type	Approximate Tonnages: Gross	Approximate Tonnages: Deadweight	Dimensions (ft.)	Speed (knots)	Propelling Machinery	Total h.p.	Engine Builders	Shipbuilders
—	Soc. Portuguesa de Navios Tanques, Lisbon	*Bornes* (752)	Tanker	11,040	16,580	537.16 o.a. and 502 b.p. × 68.92 × [illegible]	14	B. & W. diesel	6,000	Shipbuilders	S.A. John Cockerill, Hoboken
—	Soc. de Transports Maritimes Cotmar, Basle	*Dione*	Cargo	750	1,200	—	10.5	Diesel	640	—	A. G. Weser, Bremer-haven
—	L. Smit & Co.'s Internationale Sleepdienst, Rotterdam	*Oceaan*	Ocean tug	—	—	147.7 × 28.9 × 16.2	—	6-cyl., 4-str. M.A.N. diesel	2,000	P. Smit, Jnr., Rotterdam	J. & K. Smit's Scheeps., Kinderdijk
Nov. 15	Rederi A.B Gylfe, Helsingborg	*Margit Gorthon* (118)	Tanker	10,170	15,900	514.75 o.a. × 65.75 × 36.83	15	8-cyl., 2-str. diesel	8,600	Gotaverken, Gothenburg	Oresunds-varvet, Landskrona
Nov. 29	Rederi A.B Gylfe, Helsingborg	*Maria Gorthon* (318)	Tanker	8,864	13,235	465 b.p. × 62 × 34.5	14	7-cyl., 2-str. M.A.N. diesel	4,500	Shipbuilders	Kockums M.V., Malmo
Dec. 4	Angbats. A.B Ferm, Kristinehamn	*Fernland* (654)	Tanker	10,100	15,810	515.16 o.a. × 64 × 38.16	14.5	8-cyl., 2-str. diesel	7,350	Shipbuilders	Gotaverken, Gothenburg

Shell's Fuel Oil General Department

Mr. J. L. Flanagan (*left*), manager of the fuel oil general department of the Shell Petroleum Co., Ltd., in London, is to retire on December 31, on reaching the age limit. He will be succeeded by his deputy, Mr. D. B. Vale (*right*). Mr. Flanagan spent his early career with the Canadian Pacific Railway and the Canadian Northern Railway, obtaining an appointment—after Army service during the First World War—with the British Ministry of Shipping. He joined the fuel oil department of Shell in 1920. In 1927, he was appointed deputy manager and, in 1932, manager. Mr. Flanagan has thus completed thirty-two years' service in the same department of the Shell Company and for the past nineteen years has been responsible for the marketing by Shell on a world-wide basis (outside the U.S.A. and Canada) of fuel oil, diesel fuel and gas oil. He is particularly well known in international shipping circles for his work on oil fuel bunker supplies. Mr. Vale joined Shell in 1930 and entered the fuel oil general department in 1936. After distinguished Army service during the Second World War, in which he reached the rank of Lieutenant-Colonel, he returned to the same department. Mr. Vale was appointed deputy manager of the department in January of this year

MARITIME NEWS IN BRIEF

From Correspondents at Home and Overseas

AN EXTENSIVE programme by Australian shipping authorities to overcome the present shortage of tonnage has been announced in Canberra by Senator McLeay, Minister for Shipping. Describing the present shipping situation as desperate, he said that ten Australian-built vessels would be delivered during the coming year or early in 1953. These would consist of one 12,000-tons iron ore carrier, one 7,000-tons and one 2,000-tons collier, four general cargo vessels of 7,000 tons each and three of 3,000 tons. In addition, the Australian Government and various Australian shipping companies have placed orders in Britain for a number of other vessels, the first of which is expected to be delivered in 1953.

A NEW STEM is to be fitted to the 8,500-tons cargo ship *City of Hull* by Palmers Hebburn Co., Ltd., Hebburn-on-Tyne. The ship's stem was damaged by fire in the Indian Ocean, and the firm has been given the job of carrying out repairs. The vessel has not yet arrived in the Tyne, but Vickers-Armstrongs, Ltd., Walker, which built the *City of Hull* about four years ago, are building a new stem from the original plans. After the ship has been docked by Palmers at Hebburn, the new stem will be carried across the river from Vickers-Armstrongs by floating crane and placed in position.

THE WEEKLY lectures of the Institute of Chartered Shipbrokers, due to begin last week, have had to be postponed until the New Year. The first of the Final lectures is now to be given on Thursday, January 3, with succeeding lectures on Tuesdays. The first Intermediate lecture will be given on Wednesday, January 2, with succeeding lectures on Wednesdays.

THE formal investigation into the foundering and total loss of the steamer *Fred Borchard* has been fixed for hearing at the Royal Courts of Justice, London, W.C.2, on January 7 at 10.30 a.m.

MR. G. D. LLOYD, assistant chief engineer, Humber Ports, Docks and Inland Waterways Executive, has been appointed civil engineer, Humber Ports, as from January 1, 1952.

* * * *

THE REPRESENTATION in South Africa of Vickers-Armstrongs, Ltd., at present undertaken by Vickers & Metropolitan Carriage (South Africa), Ltd., jointly with that of the Metropolitan-Cammell Carriage & Wagon Co., Ltd., is to be carried on in future by Vickers-Armstrongs South Africa (Pty.), Ltd. This will be the previous company with a changed name. A further company is being formed to represent the Metropolitan-Cammell Carriage & Wagon Co., Ltd., in South Africa. Both companies will continue in the existing offices at Maritime House, Loveday Street, Johannesburg.

MR. JOHN BULMAN, general manager of the engine works of R. & W. Hawthorn, Leslie & Co., Ltd., has been appointed a director of the company. Mr. Bulman, who has spent all his engineering life with the company, was appointed works manager in 1937 and became general manager of the St. Peter's Works in 1944. He is chairman of the standing committee of the North East Coast Engineering Employers' Association, and a member of the management board of the Engineering & Allied Employers' National Federation.

THE SEVENTIETH anniversary of the Deutsche Dampfschiffahrts-Gesellschaft "Hansa" occurred this month. In 1939 the line owned 44 seagoing ships of some 301,000 tons gross. It is now rebuilding its fleet, which at present includes six motor ships of 5,000 to 7,000 tons gross, with three more under construction.

THE DEATH has occurred of Mr. Carel Gischler, chairman of Phs. van Ommeren N.V., Rotterdam, and also of Phs. van Ommeren (London), Ltd., The Crawford Shipping Co., Ltd., and The Medomsley Shipping Co., Ltd. Mr. Gischler was appointed secretary to the parent firm in Rotterdam in 1923, after having joined the firm in 1919. He was appointed a director in 1932, and managing director in 1937.

ENTRY forms for the examinations of the Institute of Transport to be held on May 5, 6, and 7, 1952, will be available on application to the secretary of the Institute after January 1. The completed forms must be returned to the Institute by March 1.

* * * *

TWO PASSENGER LINERS at present on the New York-Mediterranean route, the *Italia* and *Atlantic*, each of 22,000 tons gross, are to enter the North Atlantic trade to Canada next year. The two ships, which are operated by Fratelli Cosulich for Home Lines, will be replaced on the Mediterranean route by the smaller *Argentina* and *Homeland*. The *Atlantic* will sail from Halifax or Quebec to Le Havre and Southampton, while the *Italia* will sail from New York to Southamoton and Hamburg, calling at Halifax on the return passage. The changes are due to the decline in traffic on the New York-Mediterranean run.

AN ANNOUNCEMENT by I.T.D., Ltd., selling organisation for "Stacatrucs", "Aerolift" fork trucks and "Electricar" works trucks, states that Mr. R. T. Hartmann is no longer connected with the organisation. Mr. A. C. Cooper will be acting sales manager of the company in charge of both home and overseas divisions.

PROGRESSIVE advances in the tonnages dealt with at the South Wales Docks since June are reflected in the fact that the aggregate tonnage handled since January 1, 1951, is over 1½ million tons above the corresponding period in 1950.

LECTURING to the Society of Chemical Industry, Mr. L. H. Griffiths, technical manager of Semtex, Ltd., estimated that during 1952 some 80 million square feet of thermoplastic tile will be manufactured.

CAPT. J. [illegible] C. PAPE, manager and superintendent of the South-End [illegible]evedoring & Porterage Company, Liverpool, has been appointed deputy-manager for London of the National Dock Labour Board.

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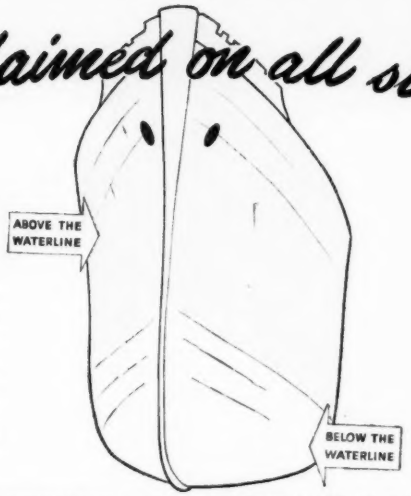

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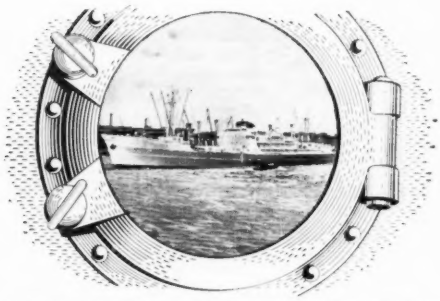

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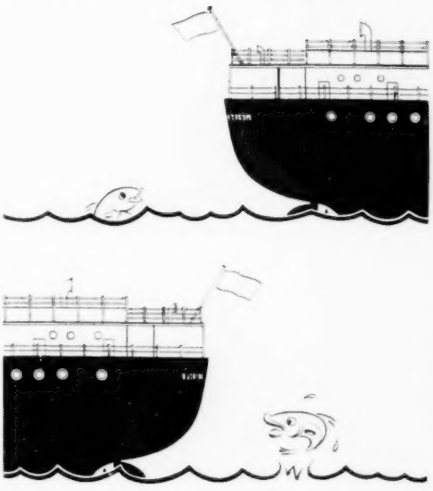

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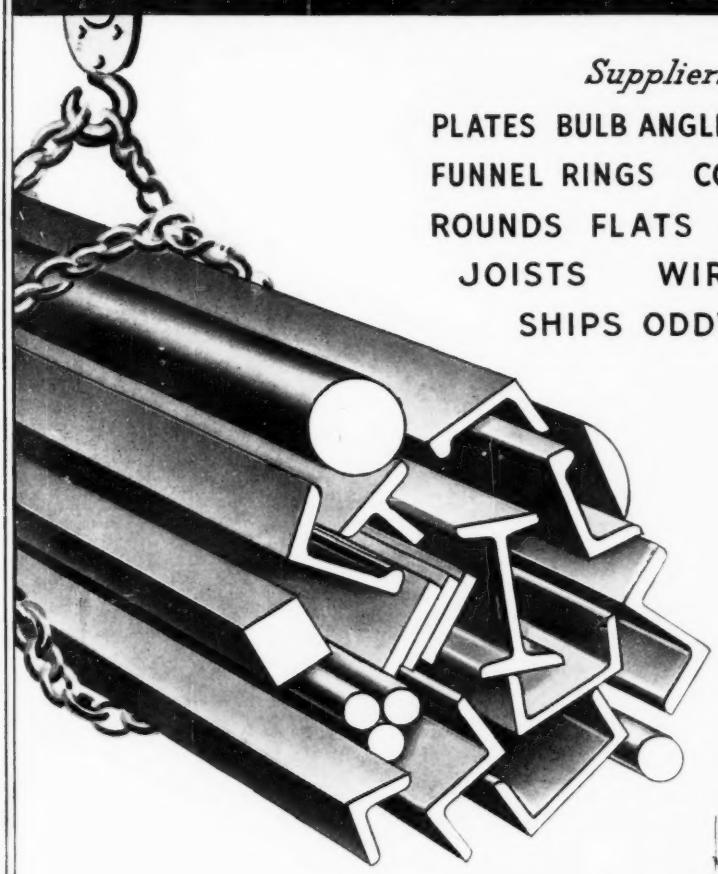

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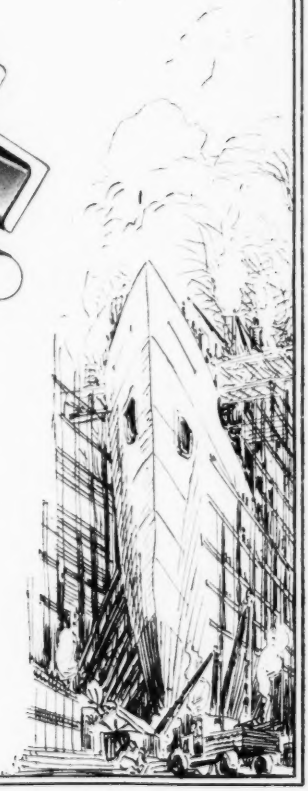

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